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ANTHROPOLOGICAL NOTES ON SOME ASSAM CASTES

BY

DR. BHUPENDRANATH DATTA, A.M. (BROWN), DR. PHIL.
(HAMBURG).

The subject-matter of this paper is the comparative anthropometrical study of some castes of Assam. For this reason, somatic measurements taken by me have been availed of. But I am keenly conscious of the defect in not having enough number of subjects from each castes examined, so as to get undisputed data on the somatology of each of these castes. I have taken twenty-nine kinds of physical measurements on each of the subjects, out of which some have been worked out here, viz.—

- | | |
|-----------------------------|---------------------------|
| 1. Colour of Eyes. | 7. Circumference of Head. |
| 2. Colour of Hair. | 8. Height of Nose. |
| 3. Colour of Skin. | 9. Breadth of Nose. |
| 4. Maximum length of Head. | 10. Nasal Index. |
| 5. Maximum breadth of Head. | 11. Bizygomatic breadth. |
| 6. Cephalic Index. | 12. Stature. |

In taking these measurements Martin's* method has been followed, and Von Luschan has been consulted as well.

The subjects of the following castes have been examined:—

1. Kayastha	... 14 subjects.	11. Nath	... 5 subjects
2. Kalita	... 18 ..	12. Mali	... 2 ..
3. Brahman	... 12 ..	13. Kaibarta	... 1 ..
4. Ahom	... 2 ..	14. Rangali Dhopa	... 1 ..
5. Koch	... 4 ..	15. Nadial	... 1 ..
6. Sau	... 2 ..	16. Dosad	... 1 ..
7. Keot	... 10 ..	17. Jalia	... 1 ..
8. Rajbagai	... 12 ..	18. Hal-Chasa	... 1 ..
9. Moslem	... 9 ..	19. Kateni	... 1 ..
10. Cachari	... 5 ..		

95

* R. Martin, "Lehrbuch der Anthropologie," Band. I. Zweite Auflage, 1928. Von Luschan, "Anleitung zu wissenschaftlichen Beobachtungen auf dem Gebiete der Anthropologie, Ethnologie, und Urgeschichte. (Sonderausgabe aus Neumeyers Anleitung zu wissenschaftlichen Beobachtungen auf Reisen, 3. Auflage, Leipzig.)



Thus the total number of the subjects is 95.

In order to make a comparative study of somatic characteristics of these subjects the following table is given below.*

By glancing at the table of somatic measurements it is to be seen that the colour of the eyes, the range of variation is as given in Prof. Rudolph Martin's "Eye Table". That means, the eye-colour of the subjects fall within the range of 2-4, i.e., grey; of these three have the eye-colour numbering 7 and 8 which are, however, distinctly grey. Out of No. 8 is to be found in a subject (No. 16) of Kalita caste and another subject (No. 65) of Rajbansi caste, and No. 7 is to be found in a subject (No. 71) of Nath caste. The Cacharis who are purely a tribe from the eastern mountain range and speak a language which is now-a-days known as belonging to the Mon-Khmer language group, have dark-brown eye-colour, the range of variation being 2-4.

As regards the colour of hair (examined with E. Fischer's Hair Table), most of the subjects have black hair. No. 27 with the exception of three having tawny colour. The nature of hair texture that is to be found amongst the Assam subjects in consideration here are thus: Black, Black and wavy, Black and coarse, Black and curly, Tawny and fine, Tawny and stiff. Regarding this colour and texture of the hair, no line of demarcation can be drawn in caste matter, as different varieties are to be found within the members of the same caste.

Next comes the question of colour of skin. By applying Von Luschan's "Skin Colour Scale" it is found that the range of variation in this matter extends from Nos. 8 to 34. That is, there is a wide range of variation extending from very light (comparatively very fair) complexion to very dark (something like chocolate colour). By arbitrarily taking colour Nos. 1-9 as "very light," Nos. 10-21 as "light brown," Nos. 22-32 as "dark brown," Nos. 33-34 as "very dark," and Nos. 35-36 as "black" it is to be seen that amongst these subjects 1.05% may be called very light, 44.2% as dark brown, 5.26% as very dark. The pure "black" colour is conspicuous by its absence. Amongst the big groups mentioned in this paper, the Kayasthas have skin-colour ranging from Nos. 8 to 22, i.e., from very light to

* *Vide* p. 14-25.



dark brown. The Kalitas have skin colour ranging from Nos. 14 to 33, i.e., from light brown to very dark brown. The subjects have colour ranging from Nos. 12 to 25, i.e., from light brown to dark brown. The two Ahoms have skin-colour Nos. 17 and 18, i.e., they are light brown. The Keots, a so-called lower caste, who are engaged in fishing and agriculture, have the skin-colour ranging from Nos. 21 to 34, i.e., it varies from light brown to very dark. The subjects have skin-colour ranging from Nos. 22 and 29, i.e., they are dark brown. The Naths have skin-colour numbers varying from 22 to 34, i.e., from dark brown to very dark. The two Moslems have skin-colour numbers 15 and 16, i.e., they are light brown. The Rajbansis (Rajbansi and Koch) who are still the ruling caste in the state of Cooch-Behar in Bengal have the skin-colour ranging from Nos. 12 to 32, i.e., from light brown to dark brown. The Dosad subject has got skin-colour No. 34, i.e., very dark. The subjects and the remaining castes have skin-colour ranging from 20 to 34, i.e. from light brown to very dark. In total, the dark brown colour predominates ; then comes the light brown colour.

Here it should be noted that the colour variations given in the abovementioned eye- and skin-colour tables do not suffice for the shades of colours that are to be found amongst the subjects mentioned in the paper. That means, there are more shades of colours amongst the Indian subjects than are to be found in the aforementioned tables.

Regarding cephalic indices of the Assam subjects, the variation ranges from 70 to 100, the average index being 800, standard deviation being 4.118. That means from hyperdolichocephaly to ultrabrachycephaly, all varieties do exist.

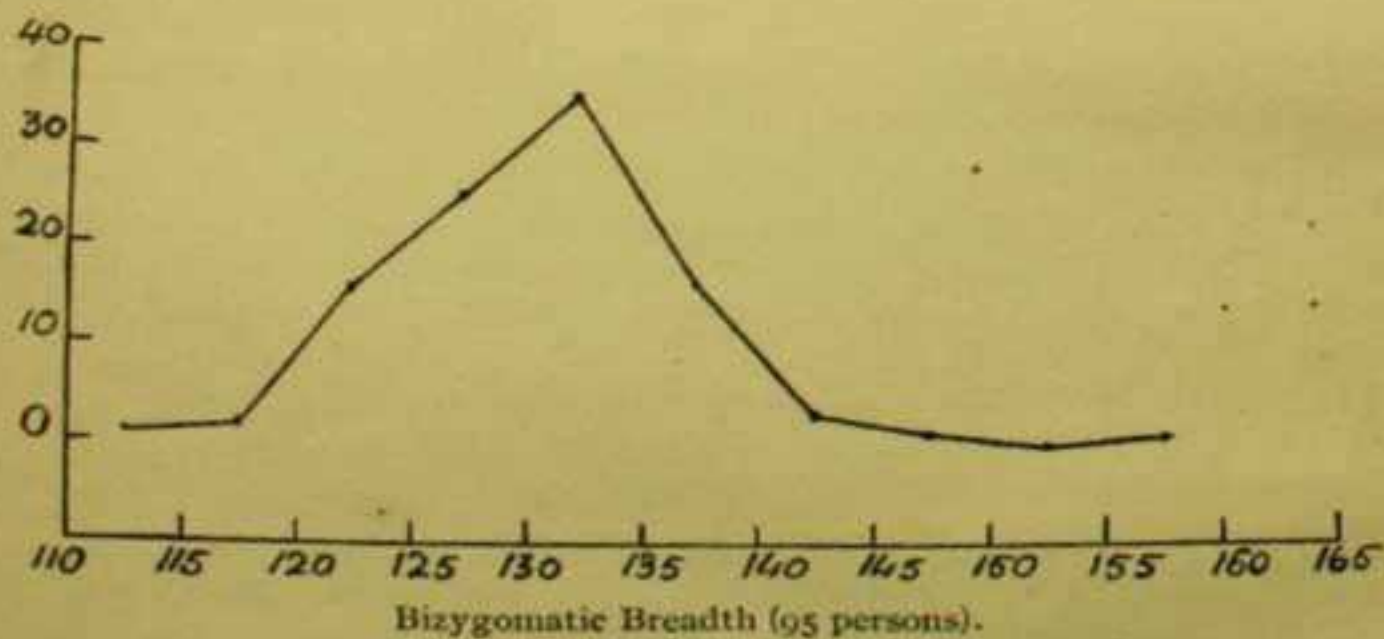
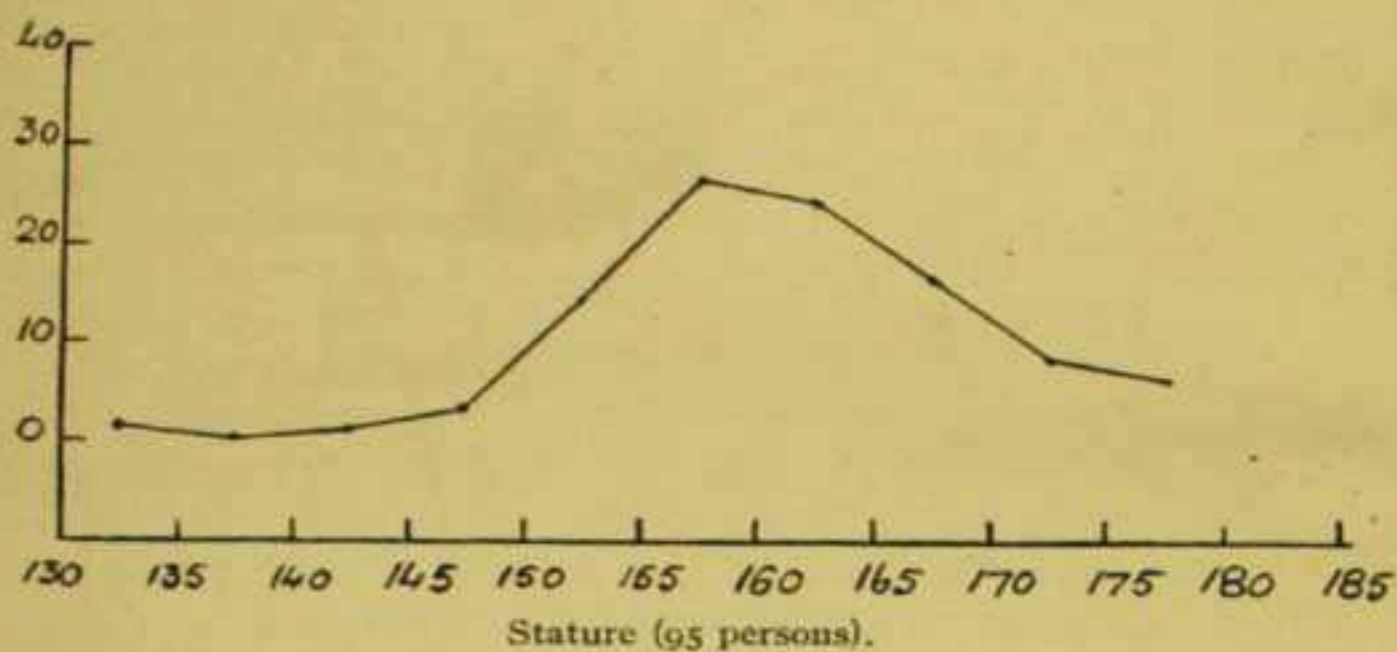
Amongst the numerous groups mentioned here, the *Kayasthas* have indices varying from 70 to 88, i.e., from hyperdolichocephaly to hyperbrachycephaly different varieties are to be found amongst them. The *Kalitas* have the range of variation extending from 74 to 100, i.e., from dolichocephaly to ultra-brachycephaly different varieties exist amongst them. Of course the solitary instance of index No. 100 may be counted as an abnormality. The *Brahmans* have the indices numbers ranging from 78 to 83, i.e., the mesocephals and brachycephals are to be found amongst them. The two *Ahoms* have Nos. 79 and 84, i.e., they are respectively mesocephals and brachycephals. The



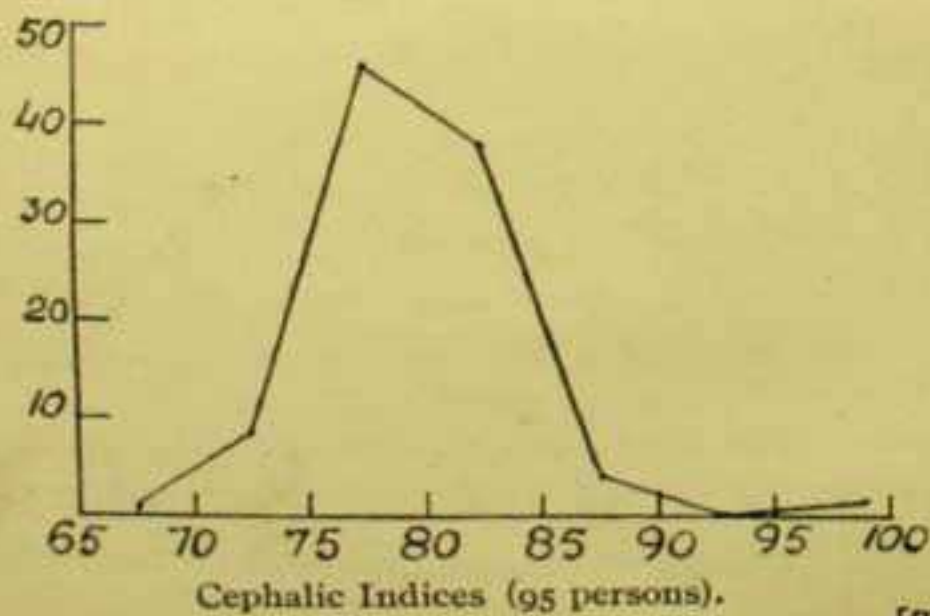
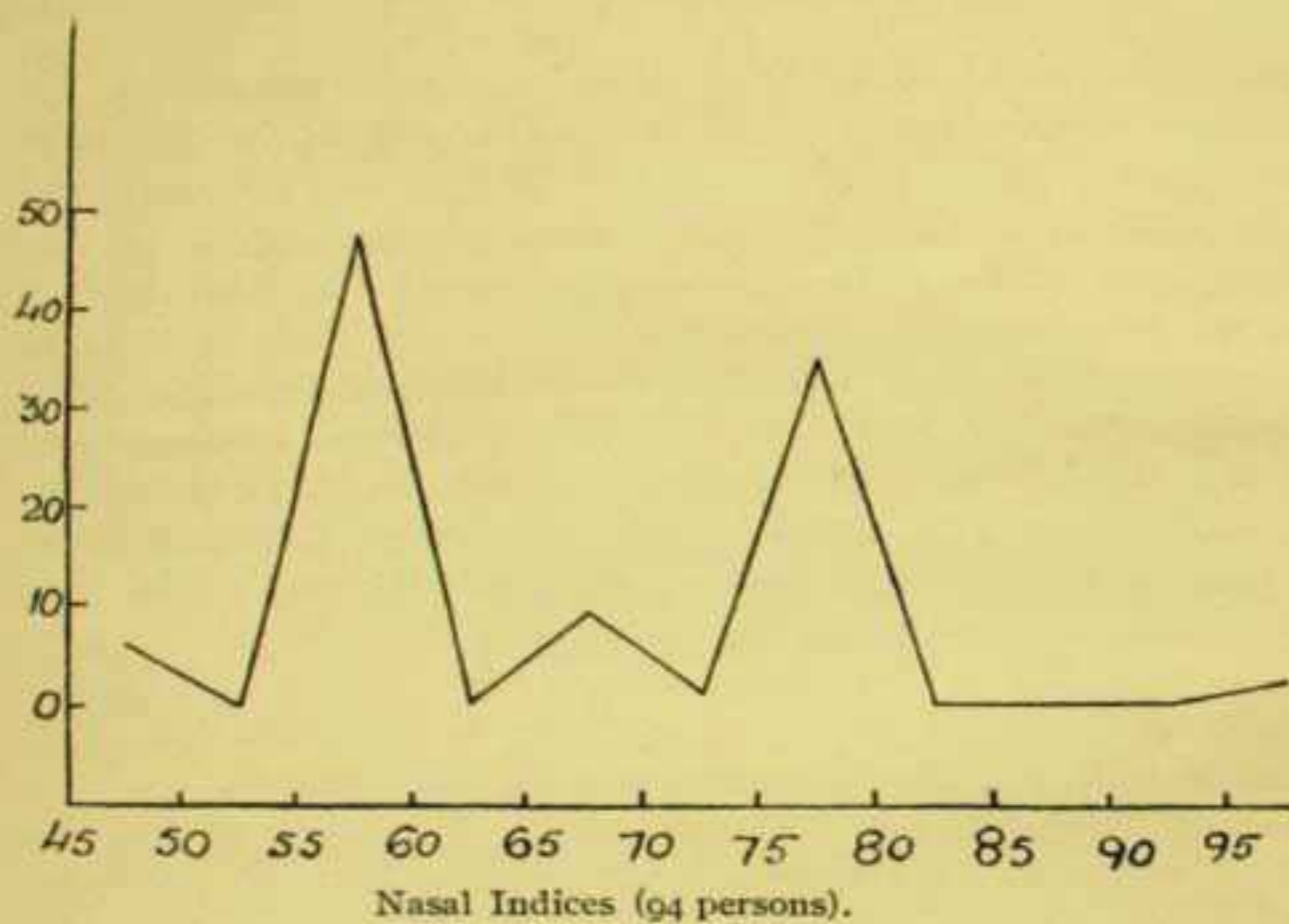
Koch and *Rajbansis* (they are the same caste) have the numbers ranging from 72 to 83, i.e., the varieties extending from dolichocephaly to brachycephaly are to be found amongst them. The *Keots* have indices ranging from 74 to 83, i.e., from dolichocephaly to brachycephaly varieties are to be found amongst them. The *Naths* have cephalic indices varying from 78 to 83, i.e., they have mesocephalic and brachycephalic characteristics amongst them. As regards the solitary examples of two *Saus*, they have indices of 74 and 79, i.e., they are of dolichocephalic and mesocephalic characteristics. As regards the two *Moslem* subjects who are put here for comparison, they have the identical index of 83, i.e., they are brachycephals.

The average Nasal index of the Assam subjects is 67.85, S. 11.05 and the range of variation extends from 50 to 100. That means, from hyperleptorrhine to hyperchamoerrhine characteristics all varieties are to be found amongst them. Amongst these, the *Kayasthas* have the nasal indices ranging from 60 to 100, i.e., from leptorrhiny to chamoerrhiny all characteristics exist amongst them.

Amongst the *Kalitas* twelve subjects have the indices ranging from 50 to 67 which signify their leptorrhine characteristic, while five have No. 80 which falls within mesorrhine group and there is a solitary instance of index No. 100 which is of chamoerrhine characteristic. Amongst the *Brahmans* seven subjects have the indices varying from 50 to 67 which show that they are leptorrhines, five subjects have the index of 80 which signify their mesorrhine character. The two *Ahoms* have the identical nasal index of 80 which makes them fall within the mesorrhine group. Amongst the *Rajbansi* and *Koch*, twelve subjects have the indices varying from 50 to 67 which make them leptorrhines, while the remaining four have the indices ranging from 75 to 80, i.e., they are mesorrhines. Amongst the *Cacharis* one is a leptorrhine (index No. 60), three are mesorrhines (index No. 80), while the remainder is chamoerrhine (index No. 100). Amongst the *Naths*, four have the range of variation from 50 to 60, i.e., they are leptorrhines, while the remaining one is a mesorrhine (index No. 80). Amongst the two *Malis*, the one is a leptorrhine (No. 60) while the other is mesorrhine (index No. 80). The two *Saus* are likewise leptorrhine (index No. 67) and mesorrhine (index No. 80). The same is the case with the two *Moslem* subjects.



[To face p. 5.]



[To face p. 5.]



As regards stature, the range of variation extends from 131 cm. to 180 cm., i.e. from "Small" to "Tall" various groups exist amongst these subjects.

By examining the cephalic index curve of the subjects of the Assam castes in question here, one sees that the highest point reached in the curve is between the indices numbers 76-80 (i.e. 6%) and there are lower points on the right and left of it. It shows the asymmetry of the curve which proves that it is composed of heterogeneous elements. The lowest point falling on the left of it is within the indices area 66-70 (1%) and the lowest point on the right of it falls within the area 96-100 (1%). The curve shows that it covers a dolichocephalic area extending from 66 to 75 reaching its highest percentage at 9%, and a mesocephalic area extending from 76 to 80 having its highest percentage at 46%, and a brachycephalic area extending from 81 to 100. The highest percentage reached in this group is 4%. By counting dolichocephaly and mesocephaly as the two varieties of the same characteristic, we find that the majority of the subjects mentioned in this paper are of long-skulled variety, i.e., they are *dolichoids*.

By looking at the nasal indices curve, we find the indices to be grouped into two important areas, with smaller areas around them. The peak of the biggest area falls between the indices Nos. 56-60 (47%) while the other peak falls between Nos. 76-80 (34%). The curve shows the heterogeneous characteristic of the nasal form of the subjects, the majority being leptorrhines while the rest are mesorrhines and chamaerrhines, the last being 2%.

By examining the bizygomatic breadth (average 130, S. D. 2.22) curve it is to be seen that the highest concentration falls within the indices area of 131-135 (35%). But there are higher and smaller index numbers around it.

By regarding the stature (average 161.77 cm., S. D. 7.8) curve it is to be seen that it is an asymmetrical curve having its highest point falling between indices numbers 156-160 (26%), which shows that this area falls within the category of "medium-sized." The curve betrays the non-homogeneous character of the subjects in the matter of stature also. The curve further shows that about 29% (131-155 cm.) falls within the nomenclature "short," about 46% (158-167 cm.)



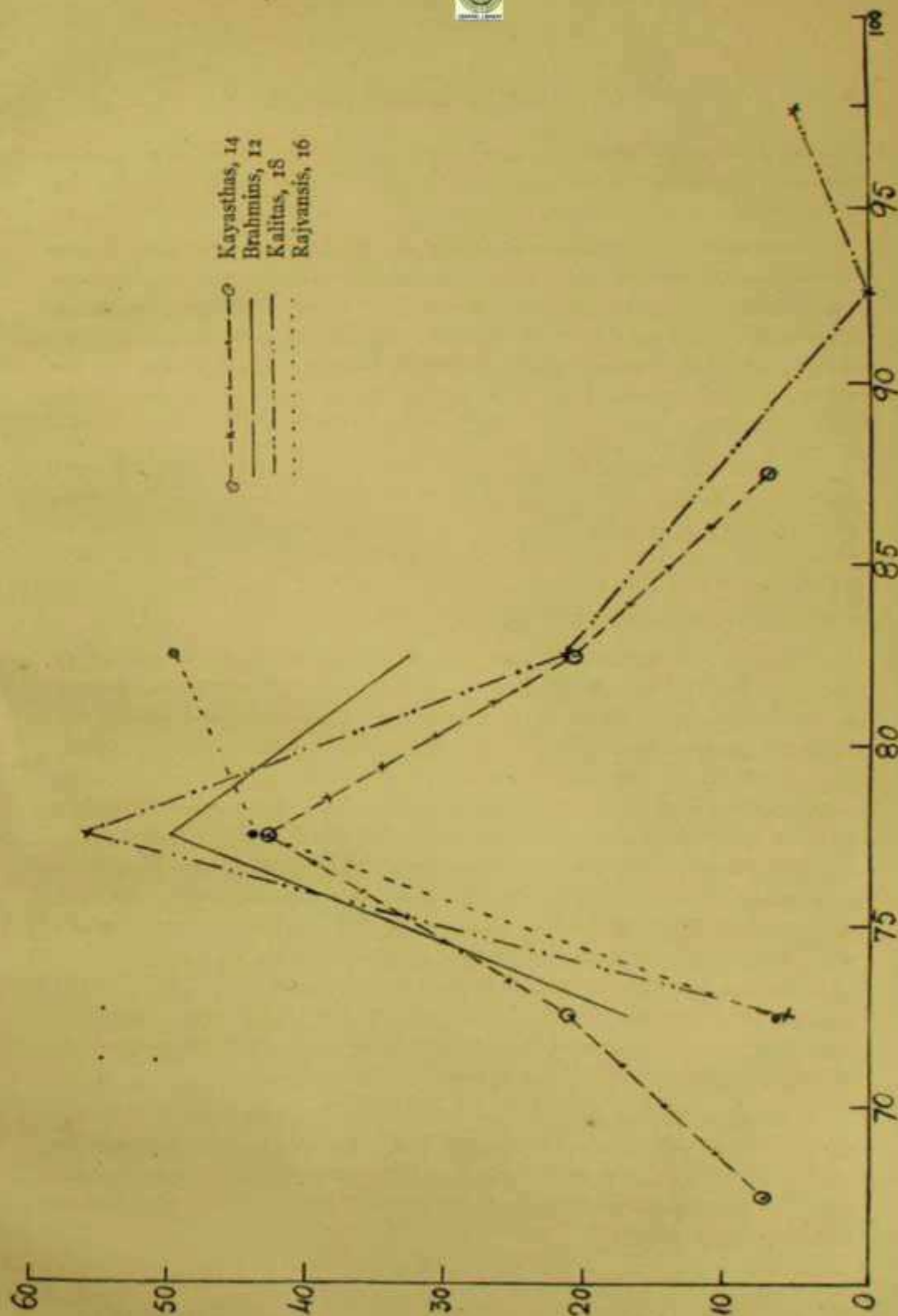
"medium-sized" and 23% as "tall." Of course there are extreme "short" (pygmy) and extreme "tall" individuals within the extremities of these groups.

By making a comparative study of the cephalic indices curves of the four important castes mentioned in the paper, it is to be seen that the highest point of the "dolichoid" area with the Brahmans falls in the same area with 43%, with the Koch and the Rajbansis the highest point within the "dolichoid," area is reached also in the same area with 44%, with the Kalita it is reached at the same area with 55%.

On the other hand, the highest point of the brachycephal area with the Brahmans falls at the Nos. 81-85 (33%), with the Kayasthas at 81-85 (21%), besides it, there is a hyperbrachycephalic area at 86-89 (7%), with the Koch and Rajbansis at 81-85 (50%), with the Kalitas at 81-85 (22%) while there is a big hyperbrachycephalic area covering the indices 86-90 and 96-100 (total 16%).

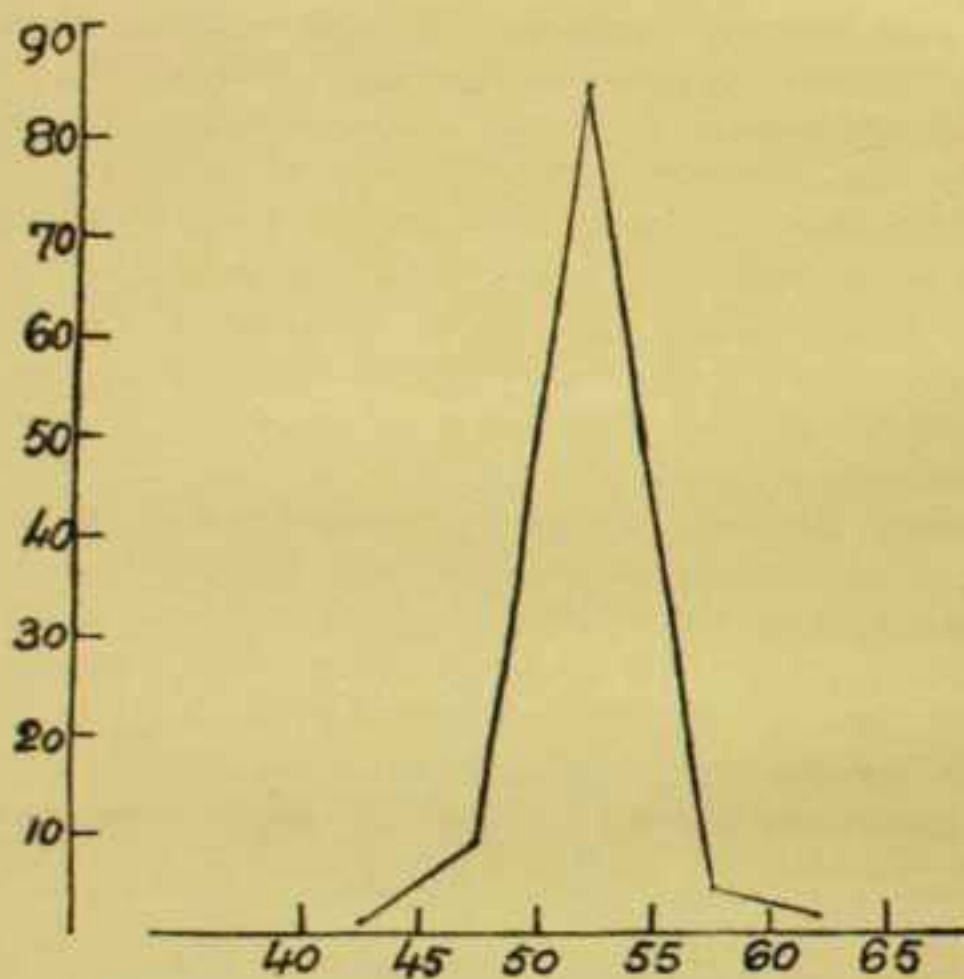
Thus by making a comparison of the cephalic indices curves of these castes, we have found out that though the figures of the curves do not agree yet there is a substantial agreement regarding the highest points reached in the dolichoid varieties of the skull form, and there are wide divergencies in the brachycephal form regarding the highest points reached in the area. Of these the points reached by the Kayasthas and the Koch approach each other, while the points reached by the Brahmans and the Kalitas are nearer to each other than to the rest. In the brachycephal area we see Kayasthas and Kalitas have reached points nearer to each other, while the others are widely divergent from the rest. Finally it is to be seen that first the Brahmans then the Kayasthas have the largest number of dolichoids within them, while the Koch and Rajbansis have the largest number of brachycephaly in them, and the Kayasthas have the smallest number of the same.

The comparative study of the nasal indices curves shows that the highest point of leptorrhiny with the Brahmans falls within the indices 56-60 (42%), with the Koch within the same indices (56%), with the Kayasthas with the same indices (43%), with the Kalitas with the same (61%).



Comparative Cephalic Indices (60 persons).

[To face p. 6.]



Head Circumference Curve (95 persons).



On the other hand, the highest point of mesorrhiny with the Brahmans falls within 76-80 (42%), with the Koch and Rajbansis within the identical indices (19%), with the Kayasthas within the indices (21%), with the Kalitas at the same place (28%).

As regards chamoerrhiny which is to be met only with the Kayasthas, the point falls within the indices 96-100 (7%).

By making a comparison of nasal indices we have found out that there is an identical agreement regarding the indices of the leptorrhinic and mesorrhinic areas of the castes compared here. It is evident that these castes have leptorrhinic characteristics in common amongst them though in different percentages; as regards chamoerrhiny being found amongst the Kayasthas, and that being represented by the solitary instance of one subject only, it may be called as an aberrant one. It seems, that on the average leptorrhinic element is dominant, the same phenomenon has also been noticed in the case of the indices of the total number of the subjects.

By looking into the column of the bizygomatic breadth indices in the list of measurements, we find that the maximum breadth is reached in a Cachari (15.7), while the lowest figure is reached in a Kalita (11.5); on the other hand by looking at the curve we find that the highest point of concentration is reached between the indices area 131-135 (35%), and though the curve is an asymmetrical one, yet there are gradations within it. Thus it seems that as regards bizygomatic breadth these groups are not widely divergent from one another.

By glancing at the stature indices we find that ranging from the index No. 131 cm. in the case of a subject of the Nath caste to 180 cm. in the case of a subject of the same caste, there is a gradation of variation. In the matter of stature barring the subject bearing index No. 131 cm. which may be said to be abnormal, it cannot be said that the Assam groups are widely divergent from one another.

Regarding head circumference curve (average 52.95, S.D. 4.28) it is to be seen that the highest point of concentration falls within the indices 51-56 (8.4%).

As regards the somatic characteristics of the two Moslem subjects which have been put here for comparison, it can be said that in somatic characteristics they are indistinguishable from their Hindu



neighbours ; both of them have black and coarse hair in common with some Hindus and one (No. 95) has the somatic combination of brachycephalic-leptorrhine characteristics, the other (No. 96) is a brachycephalic-mesorrhine one; as regards stature the former is of "medium" size while the latter falls within the category of "tall."

As regards the standard deviations of the cephalic and nasal indices, it is to be seen that the nasal indices are more variable than the cephalic indices ; while the least amount of somatic variability is to be found in the case of bizygomatic breadth.

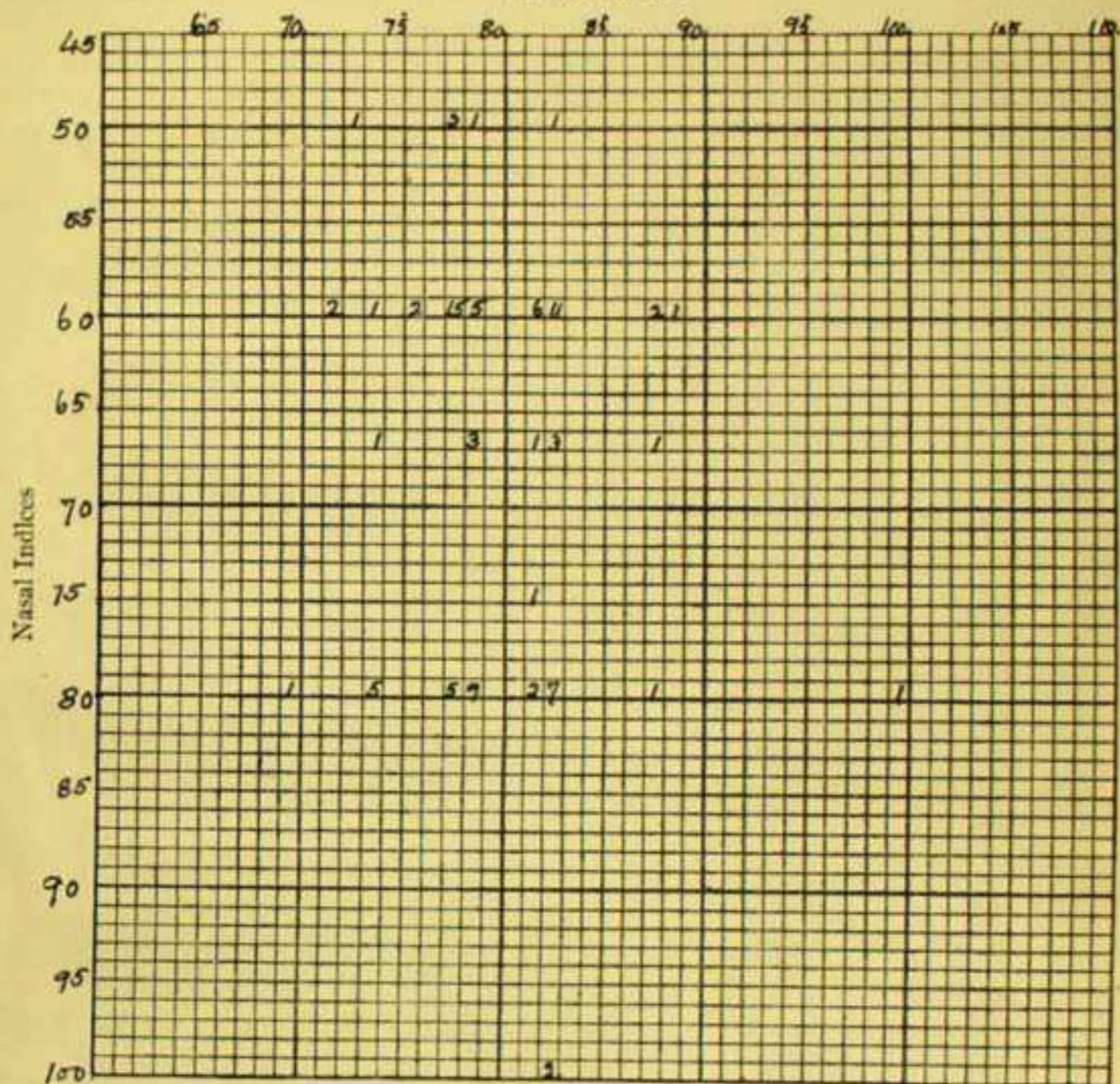
Finally, we have seen that the Assam groups on the average are of dolichoid-leptorrhine character, and by making further analysis of the same by referring to the cephalic and nasal indices correlation table of ninety-four subjects, it is to be seen that 5 subjects are of the dolichocephalic-leptorrhine combination type ; 29 are of mesocephalic-leptorrhine type; 26 are of brachycephalic-leptorrhine type; 6 are of dolichocephalic-mesorrhine type ; 14 are of mesocephalic-mesorrhine type; 12 are of brachycephalic-mesorrhine type, 2 are of brachycephalic-chamoerrhine type. Out of these, 34 are of dolichoid-leptorrhine characteristics ; 20 are of dolichoid-mesorrhine characteristics ; 26 are of brachycephalic-leptorrhine characteristics ; 12 are of brachycephalic mesorrhine characteristics ; 2 are of brachycephalic-chamoerrhine characteristics.

Thus in this list it is to be seen that the dolichoid-leptorrhine type is in majority, and next in number comes the brachycephalic-mesorrhine type ; while the brachycephalic-chamoerrhine type is conspicuous by the fewness of its number.

Further, by referring to the stature and cephalic indices correlation table, it is to be seen that there are following combinations : 2 are dolichocephal-short, 5 are dolicho-medium, 4 are dolicho-tall, 1 is dolicho-very-tall, 2 are mesocephal-pygmy, 14 are meso-short, 22 are meso-medium, 2 are meso-tall, 3 are meso-very-tall ; 11 are brachycephal-pygmy, 18 are brachy-medium, 3 are brachy-tall, 3 are brachy-very-tall, 1 is hyperbrachy-short, 4 are hyperbrachy-medium ; while hyperbrachy-tall and very-tall are conspicuous by their absence. Again by taking dolichocephals and mesocephals together as dolichoids, and by taking brachycephals and hyperbrachycephals as general



Cephalic Indices



Cephalic and Nasal Indices : Correlation Table (94 persons).

[To face p. 8.]



Cephalic Index		Stature													
		135	140	145	150	155	160	165	170	175	180	185	190	195	200
70	.														
75	.														
80															
85															
90															
95															
100															

Cephalic Index and Stature Correlation Table (95 persons).



brachycephalic (broad-skulled) variety, we see that there are 2 dolichoid-pygmyes, 16 are dolichoid-short, 27 are dolichoid-medium, 6 are dolichoid-tall, 4 are dolichoid-very-tall; while in the general brachycephalic (broad-skulled) variety the brachy-pygmy is absent, 12 are brachy-short, 22 are brachy-medium, 3 are brachy-tall, 3 are brachy-very-tall. As regards stature, in total the dolichoid variety is 55, while the brachycephal variety is 40. Thus out of a total of 95 subjects the dolichoid variety preponderates over the broad-skulled ones. As has been said above, the same phenomenon is to be observed in the table of correlation of cephalic and nasal indices.

Here, the analysis of the somatic characteristics of some of the castes of Assam mentioned in this paper is at an end. Here we do not meet with a homogeneous population. The somatic characteristics vary within the groups. In total, the traces of different racial elements are to be met in the province of Assam. There are a few subjects with traces of "Mongolian fold" in the eyes, some have good pilous system in the body; while a good many subjects have prominent, high cheek-bones. Regarding these somatic characteristics, no line of demarcation can be drawn in the matter of caste and religion. Thus it is evident that there are common elements present in all the groups. Finally we have found out that there are different biotypes existing in this province, of which the dolichoid-leptorrhine type is in majority and then comes the brachycephalic-leptorrhine type. Naturally the question arises from whence comes this heterogeneity?

In the hills of the province of Assam dwell many non-Aryan-speaking tribes who are supposed to have East-Asiatic affinities.* In Herbert Risley's "People of India" the average cephalic indices of the Tibetans of Eastern Himalayas, and the Kiranti of Assam are given as 81.3 and 82.2; and the nasal indices are given as 82.2 and 85.7. These make them fall under the nomenclature of brachycephal-mesorrhine group. As this element exists in the hills, it will not be a wonder to find it amongst the men of the plain living down below. But strangely the five Cachari subjects mentioned in this paper have the average cephalic index of 80.0, and nasal index of

* Dr. B. S. Guha speaks of a "Mongoloid strain" in Assam and Northern Burma; vide "Census India, 1931, Vol. I, Pt. III, Ethnographical."

† H. Risley, "People of India," Appendix IV, pp. cxvi.



80.0, i.e., they are mesorrhines; and the brachycephal-mesorrhine element is fairly represented in our Assam groups, yet the presence of this element though small in percentage amongst our subjects may be accounted for by the East-Asiatic proximity of the province, though it is to be found also amongst the population of Northern India. As regards the presence of other elements, a reference to the biometrical analysis of Risley's data of several castes ranging from the Punjab to Bengal can be made in "Anthropos" * where the writer of this article has shown that the dolichoid-leptorrhine element though present in most of the castes of North India, is to be found in overwhelming majority amongst the Jat-Sikhs of the Punjab, and the brachycephal-leptorrhine element is to be found in Gangetic Valley as well; it is also to be found in Bengal castes (it being present in strong numbers in the Brahman, Kayastha and Chandal castes). Again with the exception of the Jat-Sikhs, all the castes of Northern India have dolichoid-mesorrhine element in overwhelming large numbers. Further, Risley's data of the South India castes† show that on the average this characteristic is predominant there. Thus one may opine that as dolichoid-mesorrhine type is the prevalent type in India, hence one would not wonder if this element is to be found amongst the Hindus of Assam.

Thus we see that the Various biotypes that exist in North India (India north of the Vindhya range) are also to be found in this North-Eastern province. For this reason, it can be said that these people of Assam anthropologically are not isolated from the rest of India and that they have racial affinities with the people of Northern India. The only strangeness is it that they have conserved so much of dolichoid-leptorrhine and brachycephal-leptorrhine elements (which are accepted to be of West-Asiatic affinities) in them, when one recalls the fact that some of them must have blood of East-Asiatic affinities as is shown by the presence of "Mongolian fold" in the eyes and prominent cheek-bones as mentioned in the paper.

Finally, we have seen that the groups are not widely divergent from each other. These castes have no racial basis. There are

* "Das Indische Kasten system" by Bhupendranath Datta in "Anthropos," Band XXII, 1927, Vienna.

† See Risley's "People of India," Appendix, and also Thurston.



somatic characteristics which are common amongst them. This is further attested by the social fact that with the exception of the Brahmans (I have not heard anything on the contrary) other castes inter-marry amongst themselves, i.e., the daughter of a man of higher caste is given in marriage to a man of lower caste, though *vice versa* is not allowed.

Ethnological Notes.

Many of the Hindu castes of Assam are identical with that of Bengal. In ancient times, the northern portion of Bengal and the present district of Kamrup of Assam formed one kingdom of Kamrup. The ancient traditions of Naraka Raja and Bhagadatta are the common traditions of both the provinces. The languages of both the provinces are very similar with each other, and the script is the same in both cases.

There are two sorts of *Brahmans*: Kanyakubja and Vaidik. The former claims to have migrated from Kanauj (United Provinces), while the latter claims to have come from the south. The latter has got such family title as Chakrabarti, a name common among the Bengal Brahmans. But these Brahmans do not claim any Bengalee parentage though a priest of Kamakhya temple (himself a Vaidik), told me that the other group is of Bengalee extraction (a section of the Bengal Brahmans also claim Kanyakubja descent). Some Brahmans with the family name of "Goswami" trace their descent from Bengal.

The *Kayasthas* also claim Kanyakubja descent (the same claim is put forward by some of the Bengal Kayasthas). Some have family titles as "Das," "Datta," in common with Bengal Kayasthas. In the case of subject No. 3, the man's surname, caste and *gotra* are identical with good many Kayastha-Dattas of Bengal. But they all vehemently deny to have any connection with the same castes of Bengal.

Some of the cultivators call themselves Kayasthas. They call themselves as "Chasi-Kayasthas" as is the case with the subject No. 18.

The *Kalitas* are a cultivating caste. They are peculiar to Assam, though some of them have settled in some northern parts of Bengal. In good many cases they pass themselves off as Kayasthas, as is the case with the subject No. 18 who claims to be a Kalita and a Kayastha (at the same time).



The *Ahoms* are the former ruling race from whom the province has taken its present name. They are said to have migrated from south-eastern parts of Asia to this province ; but at present they are completely hinduised and have got Brahmanical *gotras* of which one is " Kasbyapa." The two subjects mentioned in the paper show East-Asiatic traces in their somatic composition by one (No. 45) having broad nose, high cheek-bones, slight epicanthus in the eyes, and other (No. 46) having broad nose and high cheek-bones. Further they have black and coarse hair.

The *Koch* and *Rajbansi* are the same caste. It is said that the Koch and Mech were originally mountainous tribes who migrated to North Bengal long ago. They are Hindus but are regarded as "Unclean" Hindus out of whose hands high-caste Hindus cannot drink water. " Rajbansi " is the new appellation taken by them. In North Bengal they are calling themselves "Kebatriyas." The Koches are still the ruling caste in Cooch-Behar. The Koches (*Rajbansis*) have migrated to Assam from Bengal and these people of both the provinces are members of the same community.

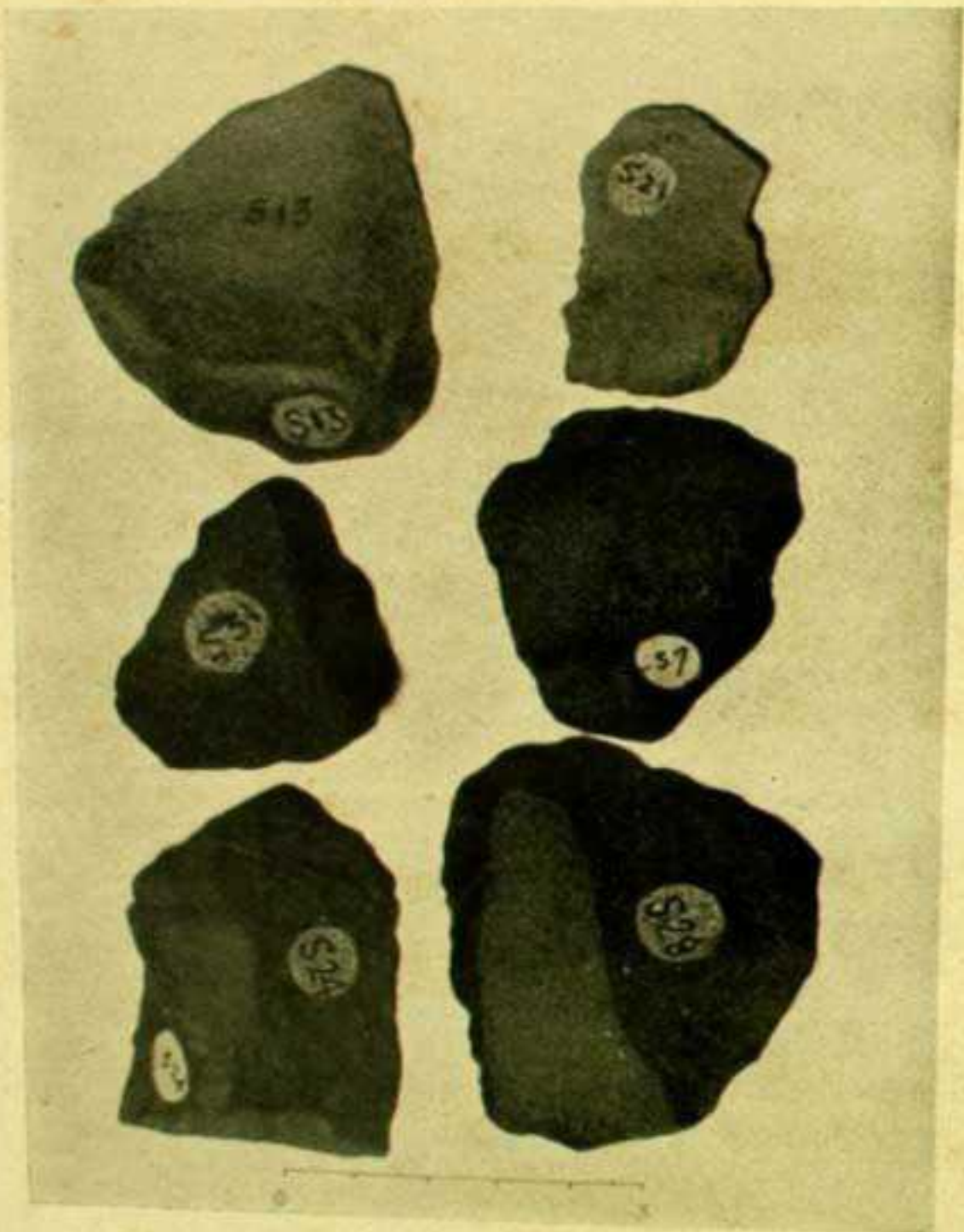
The *Saus* are a merchant caste. This caste exists in Bengal as well.

The *Keots* are a fishing and cultivating caste. This caste exists in Bengal and in the North Gangetic valley as well.

The *Naths* originally were a religious group, followers of Gorakhnath and Minanath. The temple of Gorakhnath, the leader of this religion, still exists in the town of Gorakhpur (U. P.), where the votaries of the same cult are to be found as well. I have found them to be existing as a caste in the province of Assam and Bengal.

The *Malis* are a caste originally given to gardening. This caste exists in Bengal as well.

The *Kacharis* are the dwellers of the hills of Cachar. The subjects in question in this paper belong to the colony which has settled down in the plains of Assam. They have a language of their own and they do not call themselves Hindus, though they claim to be the descendants of the Hindu hero Bhima of the Mahabharata. They have an animistic sort of religion, and they worship Manasa tree (*Euphorbia Cactus*, *Euphorbia splendens*) which they call "Shaja tree." I believe that is their totem. They eat anything except beef (perhaps that is



Paleolithic flakes from the Punjab.



due to their constant contact with the Hindus). They offer swine and cocks to their god or gods though they claim to worship all the Hindu gods in their own language, but they do not get the Brahmans for their priests. Yet they wear a tuft of hair on the occiput like all other orthodox Hindus. Many of them have prominent cheek-bones, "Mongolian folds" in their eyes, black and stiff hair, have no sign of beard and moustache on their face, and have the Mongolian cut of face. They are an endogamous group.

Somatic Measurements of Assam Castes.

N.B.—Measurements have been taken in centimetres.

Serial No.	Caste.	Name.	Colour of eyes.	Colour of hair.	Colour of skin.	Maximum length of head.	Maximum breadth of head.	Cephalic index.	Circumference of head.	Height of nose.	Breadth of nose.	Nasal Index.	Bi-zygomatic breadth.	Stature.	District.	Observations.
1	Kayastha ...	Prafulla Ch. Barua.	4	Black* and wavy.	8	17.5	15.2	88.23	52.5	5.6	3.9	66.66	14.3	160.3	Dhubri	Little prominent high cheek-bones, good pilous system.
2	"	Hariprasad Das.	2	Black.	13	18.1	14.3	77.77	51.9	4.9	3.4	60.0	12.6	163.4	Kamrup	Slight high cheek-bones, good pilous system.
3	"	Bhriyopati Datta.	1	Black and wavy.	13	19.8	14.3	70.0	54.6	5.2	3.8	80.0	13.2	166.8	Nalbari	"
4	"	Bansidhar Chowdhury.	1	Black.	19	19.4	14.4	73.68	53.6	5.3	3.0	60.0	12.2	161.3	Kamrup	Two upper incisors are of 'Prodentia' nature.
5	"	Jugalkishore Barua.	1	"	16	18.1	14.5	77.77	52.8	5.4	3.5	60.0	13.7	163.9	Golaghat	
6	"	Prafulla-kumar Dowera.	2	Black and coarse.	11	17.6	14.6	83.33	54.0	4.5	4.0	100.0	13.5	154.9	Sibsagar	



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7	"	Mohan Ch. Mahanta.	2	Black	17	18'4	14'4	77'77	52'4	4'7	3'2	60'0	12'0	145'6	Jorhat	Flat nose.
8	"	Kriahnakanta Barua.	1	"	12	19'5	15'3	78'04	56'4	5'7	3'7	65'66	13'9	176'6	Tezpur	Good pilous system.
9	"	Bhubanashwar Barua.	2	Black and coarse.	16	18'4	15'0	83'33	52'4	6'1	3'7	66'66	13'2	162'0	Sodiya	Good pilous system, asymmetrical head, occiput projected on right side.
10	"	Omrakumar Das.	3	Black	14	18'5	14'8	83'33	52'9	5'3	3'9	80'0	13'5	165'1	Tezpur	Plenty of hair on body.
11	"	Purna-Chandra Adikary	3	"	14	19'0	15'3	78'94	53'7	5'1	3'2	60'0	13'5	165'1	Kamrup	Nose convex at end, good pilous system.
12	"	Dinakanta Barua.	3	"	14	19'1	14'5	73'18	54'6	5'7	3'1	50'0	13'6	171'9	North Gauhati.	High cheekbones, prominent bizygomatics.
13	"	Joganath Chowdhury.	4	Black, little wavy, also coarse.	13	18'9	14'9	78'94	55'1	5'5	3'3	60'0	13'3	168'9	Gauhati	High cheekbones, plenty of hair on body.
14	†	Sudharum Das.	3	Black and coarse.	22	18'8	14'2	73'68	52'7	5'1	3'7	80'0	12'7	153'8	Kamrup	Head asymmetrical.
15	Kalita	Anadiram Kalita.	3	Black and wavy.	21	14'4	13'7	100'0	51'4	5'3	3'8	80'0	12'2	159'8	Gauhati	Good pilous system.

* Black stands for Fischer's No. 27 of "Hair-colour Table."

† The subject No. 14 says he belongs to the cultivating caste (Chasa) but at present claims to be of Kayastha caste.



Serial No.	Caste.	Name.	Colour of eyes.	Colour of hair.	Colour of skin.	Maximum length of head.	Maximum breadth of head.	Cephalic index.	Circumference of head.	Height of nose.	Breadth of nose.	Nasal index.	Biacromial breadth.	Stature.	District.	Observations.
16	Kalita	Sentiram Lahkar.	8	Tawny colour.	16	18.6	14.2	73.65	54.5	5.0	3.6	50.0	12.7	151.1	Bangia	Body is fairly hairy.
17	"	Annam Saikal.	9	Black and curly.	21	18.5	14.7	83.33	52.5	5.0	3.2	60.0	13.3	160.9	Kamrup	
18	"	Chandiram Lahkar.	8	Black and coarse.	20	19.3	15.1	78.94	54.8	5.8	3.6	66.66	13.4	169.0	"	Good pilous system.
19	"	Udaychandra Das.	9	Black and wavy.	22	19.5	14.6	78.94	53.3	5.7	3.3	50.0	12.9	173.0	Karpeta	Good pilous system. bigynomastics slightly prominent.
20	"	Prasanna-kumar Chaudhury.	5	Tawny	12 (??)	18.4	14.8	83.33	52.5	5.4	3.5	60.0	13.5	167.5	Kamrup	Convex nose, high cheek-bones.
21	"	Gauriharun Chaudhury.	9	Black	15	18.4	14.8	83.33	52.6	5.3	3.2	60.0	13.3	162.9	Gaubati	Slight prominent high cheek-bones.
22	"	Khagendra-nath Kakal.	9	"	25	18.7	15.0	78.94	55.4	4.9	4.1	80.0	14.0	156.0	Kamrup	High cheek-bones.
23	"	Palaspon	4	Tawny and fine.	24	17.8	14.6	78.94	50.7	13.6	157.4	"	"



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24	"	Batiram,	2	Black and coarse.	33	18.1	14.2	77.77	52.8	5.2	3.5	60.0	13.2	163.2	"	"
25	"	Bikhogam Das,	2	Black	27	17.5	13.7	82.35	50.6	5.4	3.4	60.0	12.5	160.4	"	Slight trace of Mongolian fold in eyes.
26	"	Patiram,	3	Black and wavy.	14	17.7	14.0	77.77	52.9	4.9	3.4	60.0	12.6	160.2	"	High cheek-bones. Poly-dactyl right hand.
27	"	Biraja	1	Black	23	17.9	14.4	77.77	52.6	4.8	3.5	60.0	12.2	159.6	Amingaon	Prominent high cheek-bones.
28	"	Nandi	2	Black and wavy.	22	17.8	14.5	77.77	51.3	4.7	3.7	60.0	11.5	151.2	"	Nose flat at the base.
29	†	Kaliram	5	white-haired man.	25	18.5	16.1	85.88	55.5	5.1	3.3	60.0	14.3	165.6	"	Darwin's tubercle in ear, prominent cheek-bones.
30	‡	Nanda	3	Black	21	19.1	14.6	78.94	44.8	5.5	3.6	80.0	13.3	166.9	"	Slight prominent cheek-bones.
31	§	Ehaja	3	"	28	17.1	13.4	76.47	50.8	5.4	3.1	60.0	13.0	156.6	"	Left side of skull oblique.
32	"	Kartie	1	"	27	16.6	15.1	88.23	50.8	4.8	3.2	60.0	13.5	157.6	"	Prominent cheek-bones

* Exact number cannot be got in Luncheon's colour table.

† The subject says he is a "Kalita" by caste.

‡ The subject says he is a "Barkalita" by caste, but at the same time calls himself a Kayastha and wears sacred thread.

§ The subject says he is a "Malikalia".



Serial No.	Caste.	Name.	Colour of eyes.	Colour of hair.	Colour of skin.	Maximum length of head.	Maximum breadth of head.	Cephalic index.	Circumference of head.	Height of nose.	Breadth of nose.	Nasal index.	Bizygomatic breadth	Stature.	District.	Observations.
33	Brahman	Basantakumar Barua.	3	Black	12	17.6	14.1	77.77	50.2	5.1	3.5	60.0	12.5	159.1	Aningasan	Darwin's tubercle, high cheek-bones.
34	"	Mithela-kanta Chakravarty.	1	"	21	17.8	14.0	77.77	51.5	5.7	3.3	50.0	12.4	176.6	Dhubri	Good pilons system.
35	"	Rameshchandra Chakravarty.	4	Black and wavy.	14	17.7	13.0	72.22	52.3	5.4	3.3	60.0	12.7	179.3	Dibrugarh	Slight high cheek-bones.
36	"	Ramenwar Sarma.	3	Black	17	17.7	14.7	83.33	52.5	5.3	3.9	60.0	13.9	163.3	Damany	Good pilons system.
37	"	Debwar Sarma.	2	Black, now turned gray.	14	18.3	15.3	83.33	53.4	5.3	3.6	60.0	13.5	173.8	Jorhat	Do.
38	"	G. B. Sarma.	4	Black and curly.	14	18.0	14.8	83.33	52.0	5.2	3.2	60.0	14.0	175.7	Tezpur	Darwin's tubercles.
39	"	N. N. Deb-sarma.	2	Black and coarse.	25	19.2	15.4	78.04	54.9	5.0	4.0	60.0	13.8	170.4	Kamrup	
40	"	R. P. Deb-barua.	3	Black.	13	18.7	15.2	78.04	53.4	5.6	3.6	66.66	14.0	175.5	Sibsagar	Convex shaped nose.



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41	"	Anantanath Sarma.	3	Black and coarse.	16	18'0	14'8	83'33	52'9	5'0	3'4	60'0	13'5	163'9	Kamrup	Good pilous system
42	"	Mohinkanta Sarma.	3	Black and wavy.	13	18'8	14'8	78'94	53'2	5'4	4'0	80'0	13'2	172'6	"	"
43	"	Rajeswar Sarma.	4	Black and coarse.	13	19'5	14'5	73'68	55'5	5'1	3'7	80'0	13'5	166'5	"	Slight high cheek-bones, nose convex.
44	"	Sailendra- nath Phu- kan.	3	Black and wavy.	20	18'7	14'7	78'94	52'8	5'2	3'2	60'0	13'2	173'8	Gauhati	Fair pilous system.
45	Abom	Sabi- chandra Bar Barua.	3	Black and coarse.	13	18'7	15'7	84'21	54'0	4'7	4'1	80'0	13'9	165'9	Sibagar	High cheek- bones, slight epicanthus.
46	"	Bepin- chandra Phukan.	1	"	16	18'7	15'0	78'94	52'5	5'2	3'9	80'0	13'4	160'0	"	Darwin's tu- bercle, high cheek-bones.
47	Koch	Sarat chandra Barua.	3	Black and wavy.	12	17'1	14'5	82'35	51'7	6'0	3'7	66'66	13'2	161'0	Mangaldai	Darwin's tu- bercle; convex nose.
48	"	Fatikram	3	"	20	18'3	15'2	83'33	54'6	5'6	3'9	60'66	13'7	169'0	Kamrup	High cheek- bones, good pilous sys- tem.
49	"	Chandaram	2	Black and stiff.	23	17'9	14'2	77'77	53'2	5'1	3'5	60'0	12'9	160'8	Amingaon	Epicanthus in eyes.
50	"	Dhaniram	4	Black and wavy	25	15'7	13'2	81'23	46'0	4'5	3'2	75'0	11'9	154'5	"	...

Serial No.	Caste.	Name.	Colour of eyes.	Colour of hair.	Colour of skin.	Maximum length of head.	Maximum breadth of head.	Cephalic index.	Circumference of head.	Height of nose.	Breadth of nose.	Nasal index.	Bimaxillary breadth.	Stature.	District.	Observations.
51	Cachari	Rambhoo	2	Black and stiff.	30	18.4	14.5	77.77	53.8	4.6	3.6	80.0	15.7	155.8	Bagbari	Prominent cheek-bones.
52	"	Baga	4	"	14	18.3	14.6	83.33	54.4	4.9	3.6	80.0	13.2	159.0	Amingoon	Slight Mongolian fold in eyes prominent cheek-bones.
53	"	Baga	3	Black	29	18.5	14.5	77.77	53.0	5.1	3.7	80.0	13.2	159.4	Kamrup	Prominent cheek-bones.
54	"	Kushias	2	Black and stiff.	28	18.2	13.9	77.77	51.5	4.7	3.5	60.0	13.0	168.3	"	Darwin's tubercle in ear, cheek-bones little prominent, Mongolian fold in eyes.
55	"	Ogola	3	Black	32	18.4	15.2	83.33	54.6	4.3	3.7	100.0	14.7	178.3	Bagbari	High cheek-bones.
56	Rajbanshi	Saroo	4	"	25	17.7	13.7	77.77	51.8	5.1	3.4	60.0	12.6	144.1	Sailmaha	Cheek-bones little prominent.
57	"	Hira	2	"	28	18.3	13.4	72.22	62.3	5.0	3.5	60.0	12.8	154.8	"	High cheek-bones.



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58	"	Khangar	2	"	31	18.5	13.6	77.77	52.0	5.5	3.8	80.0	12.8	156.7	Chatispara	Darwin's tubercle in ear. Prominent bizygomatic arches.
59	"	Samaria	3	"	25	16.9	13.5	76.47	48.2	5.2	3.2	60.0	12.2	151.6	Balbata	Cheek-bones little prominent.
60	"	Dayaram	4	"	22	18.8	14.6	78.94	54.5	5.1	3.2	60.0	12.8	152.4	Gouripur	Cheek-bones little prominent. Good pious system.
61	"	Gopi	2	Black and stiff.	27	17.4	13.6	82.35	51.4	4.7	3.5	60.0	13.4	166.9	Kamrup	High cheek-bones. Broad bizygomatics.
62	"	Jatiram	3	Black	26	18.2	14.6	83.33	53.3	5.0	3.5	60.0	13.0	157.1	Balbata	
63	"	Gangaram	3	"	28	18.2	15.0	83.23	52.1	4.6	3.9	80.0	13.7	158.0	Kamrup	Cheek-bones little prominent
64	"	Mangaloo	8	"	20	18.4	14.4	77.77	53.0	6.0	3.5	50.0	13.0	149.7	Gopenwar	Do.
65	"	Manik	4	"	27	19.3	15.5	78.94	56.3	5.1	3.9	80.0	14.1	166.6	Balbata	Head oblique-shaped at occiput. Plenty of hair in legs.
66	"	Utiram	3	Black and stiff.	22	17.5	14.2	82.35	51.0	4.9	3.1	60.0	13.4	160.7	Do.	Prominent bizygomatics and cheek-bones.

Serial No.	Caste.	Name.	Colour of eyes.	Colour of hair.	Colour of skin.	Maximum length of head.	Maximum breadth of head.	Cephalic index.	Circumference of head.	Height of nose.	Breadth of nose.	Nasal index.	Bi-zygomatic breadth.	Stature.	District.	Observer.
67	Rajbans	Gebinda	4	"	23	18.5	15.2	83.83	55.3	5.0	3.5	60.0	14.0	169.3	Kamrup	Darwin's tubercle in ear. High cheek-bones.
68	Nath	Jagaro	2	Black and coarse.	25	19.0	15.0	78.04	55.5	5.4	4.0	80.0	13.7	131.0	"	Prominent cheek-bones.
69	"	Purnaram	2	Black and wavy.	23	18.2	14.5	77.77	52.7	5.2	3.4	60.0	12.4	180.2	Sankhar	High cheek-bones, slightly prognathic upper alveol.
70	"	Jadu	7	Black	22	17.6	14.7	83.35	52.5	5.5	3.5	60.0	12.0	157.4	Gola Basti	Prominent cheek bones.
71	"	Bagra	2	Tawny colour and stiff.	24	18.5	14.6	83.33	54.4	5.2	3.3	60.0	13.4	150.6	Sangbar	Slightly prominent cheek-bones.
72	"	Buddhiram	2	Black and wavy.	34	18.0	14.0	77.77	50.4	5.9	3.5	60.0	12.1	163.7	Kamrup	
73	Keot	Koko	3	Black and little wavy.	27	17.4	14.5	82.35	51.0	5.1	3.6	80.0	13.1	151.1	Passa	
74	"	Madhuram	1	Black	29	17.8	13.6	77.77	51.3	5.1	3.4	60.0	12.2	160.7	Kamrup	Prominent cheek-bones.



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	Range	3	"	28	17.6	13.9	77.77	60.4	4.9	3.5	60.0	12.3	154.8	Amingao	Slightly prominent bonygation.
75	"														
76	"	Madhu	2	28	17.5	13.8	82.35	51.0	5.0	3.2	60.0	12.4	163.0	Salluoda	
77	"	Gopi	2	33	18.0	13.9	77.77	52.0	4.6	3.5	60.0	13.0	162.9	"	Prominent bonygation, plenty of hair on the body.
78	"	Hubi	2	21	17.4	13.6	82.35	61.2	5.2	3.1	60.0	13.0	162.3	Kohara	High cheek bones.
79	"	Bhumidhar Das.	2	23	18.9	14.7	78.94	62.2	5.5	3.6	80.0	13.8	170.7	Kamrup	Skull oblique-shaped in right occipital side, slight high cheek bones.
80	"	Dinanath Saharia.	1	25	18.3	15.5	83.23	50.9	5.0	3.7	80.0	12.5	166.8	Gaobati	Cheek bones slightly prominent; fair pilous system.
81	"	Rajankanta Bara.	3	22	18.7	14.2	73.66	53.9	5.3	3.7	80.0	12.6	165.1	Kamrup	Darwin's tubercle in ear.
82	"	Habiram	1	34	18.3	14.6	83.38	53.6	5.2	3.3	60.0	13.2	153.9	Balbati	Prominent cheek bones.

* The subject no. 71 says he is a Katoir Nath. The name is also pronounced as Nat.

Serial No.	Caste.	Name.	Colour of eyes.	Colour of hair.	Colour of skin.	Maximum length of head.	Maximum breadth of head.	Cephalic index.	Circumference of head.	Height of nose.	Breadth of nose.	Nasal index.	Diastomatic breadth.	Stature.	District.	Observations.
83	Mali	Harimohan	2	Black	22	18.7	13.7	73.68	53.9	5.0	3.6	80.0	12.9	168.0	Baibati	Darwin's tubercle in ear. Little prominent cheek-bones.
84	"	Kahiram	2	"	20	18.6	14.6	78.94	54.6	5.0	3.1	60.0	13.3	158.1	"	Slight high cheek-bones. Good pilous system.
85	Sau	Amritchandras Das.	1	Black and coarse.	28	19.0	14.9	78.94	54.6	5.3	3.8	30.0	13.3	164.4	Kamrup	Slight epicanthus in eyes, hair on body.
86	"	Harish Ch. Das.	3	"	20	18.7	14.2	73.68	53.0	5.8	3.6	66.66	13.4	168.8	"	Nasal tips convex.
87	Kaibarta	Kobi	2	Black	20	16.9	14.2	82.35	49.8	4.8	3.6	60.0	12.7	153.9	Dibrotari	Head oblique-shaped. Rightside frontal bone protruding out.
88	Bengali Dhopa.	Megha	1	Black little wavy.	34	18.4	14.2	77.77	52.2	5.5	3.2	60.0	13.0	157.6	Baibati	Little prominent cheek-bones.
89	Nadial	Batu	1	Black and wavy.	29	18.5	14.9	83.33	55.6	5.2	3.4	60.0	13.3	164.8	Hamiragon	Prominent cheek-bones.



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90	Donad	Putna	2	"	34	18'4	14'5	77'77	53'0	4'9	3'7	80'0	12'5	148'6	Amingson	Head oblique-shaped at left occiput; Darwin's tubercle in ear.
91	Jalia	Kirtiram	2	Black and little wavy.	27	17'2	14'5	82'35	52'0	5'1	3'7	80'0	13'4	155'3	Kaurup	Prominent cheek-bones.
92	Hal-chasa	Abboy Ch. Das.	3	Black	27	18'0	14'6	83'33	51'3	5'6	3'4	80'0	12'9	155'4	Balhatti	
93	Katani	Duseahoo	3	"	22	16'8	14'6	86'23	49'5	4'8	3'6	80'0	12'7	162'2	Amingson	
94	Moslem	Bedaruddin Ahmed.	3	Black and coarse.	18	18'0	14'8	83'33	52'7	5'0	3'6	80'0	13'2	162'6	Gaubati	Slight high cheek-bones.
95	"	Md. Taysali Haran-Is.	1	"	15	18'5	15'4	83'33	53'0	5'9	3'6	60'66	13'2	169'9	Nowgong	Darwin's tubercle. Slight high cheek-bones. Good pilous system.



INDICES TABLE.

	M. (Average).	E of M. (Error of avera, e).	S. (Standard deviation).	E of S. (Error of Standard deviation).	V (Variation Coeffi- cient).	E of V.
1. Cep. indices of 95 persons.	80.0	$\pm .2861$	4.118	$\pm .1938$	5.1475	$\pm .2537$
2. Nasal indices of 95 persons.	67.85	$\pm .7692$	11.05	$\pm .5436$	16.28	$\pm .8167$
3. Circumference of head, 95 persons.	52.948	$\pm .2282$	4.288	$\pm .2111$	8.619	$\pm .4273$
4. Bizygomatic breadth of 95 persons.	130.03	$\pm .1543$	2.22	$\pm .6715$	17.04	$\pm .1933$
5. Stature of 95 per- sons.	161.77	$\pm .5423$	7.8	$\pm .38$	4.8	$\pm .2366$



Errata

On p. 26 *insert* at the end of Indices table :—

N.B.—The correlation between (1) Cephalic and Nasal Indices, (2) Cephalic Index and Stature give the following result :—

Correlation coefficient		Probable Error
(r)		(P. E.)
(1)	0.0596	\pm 0.0696
(2)	0.3700	\pm 0.0601

The results show that there is no significant correlation between (1) Cephalic and Nasal Indices and there is positive correlation between (2) Cephalic Indices and Stature.



HINDU ANTHROPOLOGY

By

JOGENDRACHANDRA GHOSH

Anthropology is one of the Modern progressive Sciences. Anthropometry and Ethnology are the two important branches of this Science. We shall here give some facts to show that the Hindus had their Anthropometry and Ethnology from a very early period.

(1) *Anthropometry.*

Hindus made elaborate measurements of the different parts of the human body for purposes of Āyurveda (Medical Science), Astrology, Painting, Iconography, Dancing and Sculpture. The earliest record of these measurements is found in the *Suśruta-Saṁhitā*, one of the earliest medical works of the Hindus, now extant.¹ It lays down that an intelligent physician should know the exact measurements of the different limbs and members of the body for the better ascertainment of the duration of life of a patient, before he takes up the case for treatment. The unit of measurement was the breadth of one's own middle finger (*aṅgula*). As the organism of a male at twenty-five and of a female at sixteen years of age attains full development, their measurements have been taken as the standard. The *Saṁhitā* has altogether given 64 measurements, as shown in the statement attached. More measurements are found in later works. Men having these measurements were expected to live the longest. Those having shorter measurements were considered to live less.

Statement showing the measurements of the different parts of the human body, in terms of one's own finger.

1.	Length of great toe (<i>padāṅguṣṭha</i>)	... 2 aṅgula.
2.	Do. second toe (<i>pradeśinī</i>)	... 2 ..

¹ We are indebted to Dr. Panchanan Mitra for bringing this to our notice; see *Science and Culture*, Vol. I, No. 1, June 1935, pp. 33-5.



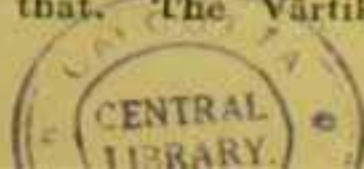
3.	Length of middle toe (<i>madhyamā</i>)	...	1 $\frac{1}{2}$	anṅula.
4.	Do. fourth do. (<i>anāmikā</i>)	...	1 $\frac{1}{2}$	"
5.	Do. fifth do. (<i>kaṇiṣṭhā</i>)	...	$\frac{4}{5}$	"
6.	Do. fore-sole (<i>prapada</i>)	...	4	"
7.	Breadth do. do.	...	5	"
8.	Length of sole proper (<i>pādātala</i>)	...	4	"
9.	Breadth of do. do.	...	5	"
10.	Length of heel (<i>pārṣṇī</i>)	...	5	"
11.	Breadth of do.	...	4	"
12.	Length of foot (<i>pāda</i>)	...	14	"
13.	Girth of do. (<i>pādagulpha</i>)	...	14	"
14.	Circumference of middle of thighs (<i>jaṅghā</i>)	...	14	"
15.	Do. do. knee-joint (<i>jānu</i>)	...	14	"
16.	Length of leg bet. ankle and knee-joint	...	18	"
17.	Do. do. do. waist-joint and do.	...	32	"
18.	Do. of entire leg	...	50	"
19.	Do. of thigh = length bet. heel and knee-joint.			
20.	Do. of scrotum (<i>vr̥ṣaṇa</i>)	...	2	"
21.	Do. of chin (<i>civuka</i>)	...	2	"
22.	Do. of exterior line of nostrils (<i>nāsāpuṭa</i>)	...	2	"
23.	Do. of tooth (<i>daśana</i>)	...	2	"
24.	Do. of the roots of ear (<i>kaṇṇamūla</i>)	...	2	"
25.	Do. of space bet. eyes	...	2	"
26.	Do. of non-erected penis (<i>mehana</i>)	...	4	"
27.	Do. of cavity of mouth (<i>vadanāntara</i>)	...	4	"
28.	Do. of nose (<i>nāsā</i>)	...	4	"
29.	Do. of neck (<i>grīvā</i>)	...	4	"
30.	Do. of ear (<i>kaṇṇa</i>)	...	4	"
31.	Do. of forehead (<i>lalāṭa</i>)	...	4	"
32.	Do. of space bet. pupils (<i>dr̥ṣṭyantarāla</i>)	...	4	"
33.	Do. of vaginal canal (<i>bhaga-vistāra</i>)	...	12	"
34.	Do. of space bet. penis and umbilicus (<i>nābhi</i>)	...	12	"
35.	Do. of space bet. chest and throat	...	12	"
36.	Do. of space bet. tips of nipples (<i>stana</i>)	...	12	"
37.	Do. of entire face (<i>mukha</i>)	...	12	"
38.	Girth (<i>sthaulya</i>) of wrist (<i>manivandha</i>)	...	12	"
39.	Do. do. of forearm (<i>prakoṣṭha</i>)	...	12	"
40.	Do. round the knee-joint (<i>indravasti</i>)	...	16	"



41.	Length bet. wrist and elbow (<i>kurpara</i>)	...	16	angula.
42.	Length of arm (<i>hasta</i>) bet. elbow and tip of middle finger	...	24	..
43.	Do. of the entire arm (<i>bhuja</i>)	...	32	..
44.	Girth round thighs (<i>uru</i>)	...	32	..
45.	Breadth of palm (<i>tala</i>) of hand	...	6	..
46.	Length of space bet. bottom of ball and of thumb (<i>angustha-mūla</i>) to the root of the index finger	...	5	..
47.	Do. root of ears to the angle of eyes (<i>apāṅga</i>)	...	5	..
48.	Length of middle finger	...	5	..
49.	Do. of index do.	...	4½	..
50.	Do. of ring do.	...	4½	..
51.	Do. of thumb	...	3½	..
52.	Do. of little finger	...	3½	..
53.	Do. of fissure of mouth ((<i>mukha-vistāra</i>))	...	4	..
54.	Girth round neck (<i>grīvā</i>)	...	20	..
55.	Cavities of nostrils (<i>nāsāpuṭa-maryādā</i>)	...	1½	..
56.	Region of iris (<i>tārakā</i>) = $\frac{1}{3}$ of the area of cornea (<i>nayana</i>).			
57.	Do. of pupil (<i>dṛṣṭi-tārakā</i>) = $\frac{1}{3}$ of do.			
58.	Arch from hairy extremity (<i>keśāntara</i>) of the temple to the middle of back of head	...	11	..
59.	Space bet. middle of back of head to the terminal point of hair on neck	...	10	..
60.	Girth of neck from back of ear to back of ear	...	14	..
61.	Length of pelvic region of woman (<i>śroṇi</i>) measured from below the anterior side of thigh joints	...	12	..
62.	Breadth of chest (<i>vakṣa</i>) of a male	...	12	..
63.	Breadth of thigh (<i>uru</i>) of women = waist of a male.			
64.	Length of a male human body	...	120	..

(*Suśruta*, *Sūtra-sthāna*, ch. 35.)

Let us now see how old is the *Suśruta-Saṁhitā*. The extant *Saṁhitā* is said to be a recension or recension of recensions by Nāgārjuna. The scholars assign him to the second century A.D., but the original *Saṁhitā* is much older than that. The *Vārtika-kāra*





Kātyāyana is later than Pāṇini (c. 700-500 B.C.) and earlier than Patañjali (c. 200 B.C.). According to the *Kathā-sarīt-sāgara*, Kātyāyana was the prime minister of Yogananda, the last of the Nandas, and earlier than the Maurya King Chandragupta (336-323 B.C.). So Kātyāyana lived in the fourth century B.C. He says—*Suśrutena proklam saśrutam*, i.e., the work *Sauśruta* was said by Suśruta.¹ This shows that the work was well-known in the time of Kātyāyana, i.e., in the fourth century B.C. So it can be assigned to the fifth or sixth century B.C. Suśruta, after giving the measurements, quotes an authoritative passage, in support of his statement, which proves that these measurements used to be taken long before the sixth century B.C.

In connection with the construction of sacrificial altars, the *Atharva-Veda* mentions the number of bones in a human body. This goes to prove that this knowledge of anatomy was so very well-known in the time of the *Atharva-Veda* (c. 900 B.C.), that it found mention in the ritualistic literature. The bones form the internal structure of the body, while the measurements relate to the surface of the body. We would not be wrong to presume that the study of the surface preceded the study of the internal structure. From all these, we conclude that the somatometric system of the Hindus was much earlier than the ninth century B.C., the latest date for the *Atharva-Veda*.

Proportionate measurements are given in the *Viṣṇudharmottara*, the *Bṛhat-Saṃhitā*, the *Sukranāṭisūtra*, the *citralakṣaṇa*, and the *Tālamāna*, in connection with Iconography, Sculpture, Painting and Dancing. Dr. Stella Kramrisch has given these measurements in a tabular form in her translation of the *Viṣṇudharmottara*, Part III, pp. 19-24.

(2) Ethnology.

The ancient Hindus were not without their notion of Ethnology. The first expression of it is found in the *Ṛgveda*, where two *Vaṇas*

¹ This we write on the authority of K. L. Bhiasagrata, the translator of the *Suśruta-Saṃhitā*, although we have not been able to trace it ourselves. When we find that the *Suśruta* is a treatise *par excellence* on Surgery, and that Jivaka, the Court physician of the King Bimbisāra, and a contemporary of Buddha (c. 563-483 B.C.), was well-versed in surgical operations, there is no inherent impossibility that a treatise like the *Suśruta* existed at that time. In fact, it should be looked upon as a repository of knowledge on the subject from the Vedic age.



(colours) are spoken of. By these two *Varṇas* are meant, the light-coloured *Āryas* (they themselves), and the dark-skinned *Dāsas* or the *Dasyus* (their enemies). This distinction of the Aryans and the non-Aryans has been characterised as *Varṇa*, because *Varṇa* or colour first arrests one's eyes. From this, we are not to understand that they failed to notice the other distinguishing features. In the Vedic literature the *Dasyus* have been called not only black-skinned but also as noseless, of short stature, coarse-featured, unholy and of low speech. This shows that they did not fail to observe all the three elementary principles of Anthropology, viz., the physical characteristics, culture and language. The names such as *Yakṣa*, *Rakṣa*, *Gandharva*, *Kinnara*, etc., also speak of their ethnological division.

With the social development there was division of labour. The difference of profession brought about difference in colours. The priestly class or the *Brāhmaṇas* retained their original light colour. The fighting class or the *Kṣatriyas* for preponderance of blood became red. The cultivating class or the *Vaiśyas* by their work in the sun became yellow. So among the *Āryas* themselves there sprang up three *Varṇas*, which ultimately came to mean caste.

As time went on, people of various other colours than the four principal colours of white, red, yellow and dark, came and different other professions sprang up. These were called *Samkīrṇa Varṇa* or mixed colours. These intermediate colours gave rise to different castes. They probably had nothing to do with the intermixture of castes, to which their origin is attributed. For example, when it is said that a *caṇḍāla* is born of a *Brāhmaṇa* mother and a *Sūdra* father, it probably originally meant that the colour and other characteristics of a *caṇḍāla* was a mixture of a *Brāhmaṇa* (white) and a *Sūdra* (black), more akin to the latter.

Further developments of these ethnological divisions are found in the *Bṛhat-Saṁhitā*, where we notice that the anthropometrical measurements have been utilized for the purpose. In Chapter 68 named *Purūṣalakṣaṇa*, *Varāhamihira*, for purposes of Astrology, divides mankind according to *unmāna* (measurement), *māna* (weight), *gati* (gait), *saṁhati* (condition of bodily joints), *sāra* (substance of the body consisting of fat, marrow, skin, bone, semen, blood and flesh), *Varṇa* (colour), *sneha* (condition of speech, tongue, teeth, eyes and nails), *svara* (voice), *prakṛti* and *satva* (character), *anuka* (configuration of



the face), *kṣetra* (field), dealing with the *lakṣaṇa* of umbilical cord, voice, character, breast (*urah*), forehead, mouth, chest (*vakṣa*), armpit, nails, nose, face, back of the neck, penis, back, neck, thigh, eye-corner, foot, palm of hand, palate, lips, tongue, teeth, phalanges, hair, skin, chin, eyes, arm and the space between the breasts), and *mṛjī*, which deals with the lustre of teeth, skin, nails, hair of the body and hair.

Under head *māna*, Varāhamihira says that an adult male at the age of 25, and an adult female at 20, or when they have attained to the fourth part of their (average) longevity, are entitled to *māna* (weight) and *unmāna* (measurements). According to the *Suśruta-saṃhitā*, we have seen above, the measurements of females at sixteen should be taken.

Again under head *unmāna*, mankind has been divided into three classes, viz., *uttama* (best), *madhyama* (middle) and *adhama* (worst), according as they are 108, 96 and 84 *aṅgulas* in terms of their own fingers. These measurements, no doubt, refer to their height or *vyāyāma*, i. e., the length of extended arm-span.

At the end of the chapter, the author says that he compiled it by consulting the views of the sages (*muni*) and by abridgment. Kern says that Varāhamihira largely borrowed from Garga. He quoted Garga fifteen times in his *Bṛhat-Saṃhitā*. *Gārgī-Saṃhitā* has a similar chapter called *Nara-lakṣaṇa*. So Garga was probably one of the sages consulted. Kern assigns *Gārgī-Saṃhitā* approximately to 50 B. C. (Kern's Introduction to the *Bṛhat-Saṃhitā*, pp. 32, 33 and 40).

In Chapter 69, on *Pañca-Mahāpuruṣa-lakṣaṇa*, Varāhamihira divides the *Mahāpuruṣas* or the nobility into five classes according to their *vyāyāma*. They are—*Haṁsa*, 96 *aṅgulas*; *Śaśa*, 99 *aṅgulas*; *Rucaka*, 102 *aṅgulas*; *Bhadra*, 105 *aṅgulas*; and *Mālavya*, 108 *aṅgulas*, in measure of their own *aṅgulas*. The height is equal to *Vyāyāma*. The kings belong to these categories. Their subordinates are called *Samkirṇa-puruṣa*. They are respectively, *Kuṣṭha*, *Sāmi*, *Maṇḍalaka*, *Vāmanaka* and *Jaghanya*.

Many more particulars of the *Mahāpuruṣas* are given in the *Viṣṇudharmottara*. It not only gives the measurements of the



Vyāyāma,¹ but those of the different parts of body, with descriptions of their colours, hair, etc. It also divides their womenfolk into five types and gives their distinguishing features. The work furnishes many interesting details of the different countries of India, as well as of Gandharvas, Rākṣasas, Yakṣas, etc.

One very interesting fact worthy of notice, in this connection, is that two of these five type-names are also the names of two tribes of ancient India. They are Bhadra and Mālavya. Mālava and Bhadra are also the names of countries. Bhadra again is a type of temple in Orissa. Mālavya and Bhadra are also surnames.

We have seen above that the Hindu anthropometric measurements are not later than the *Atharva-Veda*. The several sciences, namely, Ayurveda, Astrology, Iconography, Sculpture, Painting and Dancing, which utilized these measurements, do not seem to be later than that date.

Although we are fully conscious of our incompetency to deal with this subject, our object in writing this paper is to draw the attention of the Anthropologists. We shall be highly gratified if some of them will make use of the materials, scattered here and there in Sanskrit works, to write a treatise on the subject.

¹ These are somewhat different from those given by Varāhamihira. They are—*Harṣa*, 108; *Bhadra*, 106; *Mālavya*, 104; *Rucaka*, 100; and *Salaka*, 90 aṅgulas. According to the *Sūtrata-Saṁhitā*, the highest length of a man is 120 aṅgulas. Division into these types are also found in the *Samarāṅga-Sūtra* of Bhoja.



SOME PRIMITIVE TOTEM CONCEPTS AS GUARDIAN ANGELS WITH SPECIAL RE- REFERENCE TO THE BEAR AS A GUARDIAN SPIRIT

*(An analytic study of the primitive attitude towards totem-guardian
angels bereft of later conventionalized modes of thought.)*

By

S. SIRCAR

Whatever be the beginnings of earth according to the Laplacian theory or the modern planetesimal hypothesis of Chamberlin and Moulton and whatever be its age in radio-active element in 'half-period computation' and its succession in geological epochs, there is no denying that after a long long lifeless period it stepped into a life-bearing condition—a phenomenon new to her—a wonder-experience in her life career not so long dreamt of in the offspring of a successful career in the high ecstasy of the rotatory circuits of a changing traverse. It is then that the plants developed and still later the marvels of animal life.

The first dawn of human life, in many senses the greatest miracle of the terrestrial career, broke amidst widely distributed luxuriantly grown plant life and lovely, joyous and a healthy sweet-singing noisy world of animal life. The awe-struck, wonder-absorbed human life awoke with its biological urge but in a state of mental bewilderment as to how best it can get on the same footing with them. The peculiar hopelessness of human life in solving the food-problem and the free, natural, easy growth and development of plants and animals stood out with a strange contrast. Here were the plants and trees growing and developing with a luxuriant foliage neglecting



the vicissitudes of all weathers and persistently sprouting forth in the midst of obstacles—and the animals ranged free and knew exactly what fruits were sweet and succulent, where the honey was to be had and how it was to be gathered without the stings being in the least effective or what clean water was to be drunk without the danger of being poisoned or how to circumvent the game for one's daily food—were they not the first objects of awe and imitation of man in his worried quests in search of food and shelter ?

Thus man found himself inferior at first to plants and animals in satisfying his biological needs such as hunger and thirst or weathering the inclemencies of season in suitable protection. So he came to accept them mentally as superior and tried to get all his wants met and fulfilled through them. The urge of hunger and its fulfilment leads men to believe that when plants are so well-fed and grow so luxuriantly they will also get the power of satisfying their hunger and grow plump and healthy if they could eat the flesh and blood of the animals. This was the nature of the belief of the primitive mind and they looked at the facts in their most casual aspects. The story of the goose laying golden eggs in Aesop's Fables reveals the characteristic attitude of a childish or primitive mentality : similar to the aforesaid type the owner tried the means of getting all the eggs at once by ripping the goose open. Thus this also might have been the crude psychological beginning of the elaborate rituals of the eating of the gods.

Similarly the superior and supernatural power ascribed to animals can be seen in many cases. " The belief that animals know things that we know not and see things that we see not is scattered all over the earth. When the primitive men saw countless instances of birds forewarned of the approach of storm, animals saved from the approach of flood by timely escape whereas men succumbed to them there grew the natural conviction that animals had foreknowledge. The prophetic power of animals has an important bearing on the subject of divination.....Animals were the passive instruments or mediums of superior power which was believed to be communicable to man through their flesh and specially through their blood. So it was naturally thought that the animals were the possessors of all human traits with the addition of some other particular traits in each special



case. That animals formerly talked with human voices was the genuine belief of most early races." ¹

It is immaterial for our purpose as to whether the clan came out of the family or *vice versa*, as Morgan supposed and Muller Lyer tries to reiterate—for man being a gregarious animal even the so-called parricide horde of Freud could not have consisted of a single biological pair. So it is safer to start with the community as the anthropological unit composed of several married pairs and their dependants and in that sense it is a camp of co-operating families.² Thus men from the beginning may be said to have grown in the midst of bands. Each individual of a band paid his homage to the band which might have grown into clans to safeguard descent and for protection of material possessions of the group, as Seligmann thought, enshrining some inherent incest-avoidance instincts.³ A congregation solves life-problems more easily and whether we make much of mutual-aid groups among animals leading directly through stages to the association-types of evolving humanity, the elemental units were possibly the bands or local groups integrating into tribes. Thus there were various local bands in different places of the earth grouped into allied or divergent tribes.

It was Long who first, in 1791, made the Western world familiar with the word Totem which was the native name for the supernatural protector that was claimed by each man as his protective object or being amongst the tribes of the Great Lakes in America. Wissler in a very useful summary of the present viewpoints about totemism states, "It is not universal, it is extremely variable in its contents, and that there are regional differences; as in North America, the guardian spirit seems to be the keynote of the totemic idea, in Africa, the emphasis is upon the taboo against killing, eating, etc., and in Australia, the ancestor relationship is the outstanding feature. Thus while there may be four or five separate problems in totemism, the majority opinion seems to be that totemism as an association of variables with the recognition of a totem by a totemic group, is a reality."⁴

Now in the primitive local bands the crude wants for stilling the pangs of hunger and thirst and for seeking protection against unforeseen dangers for himself, his family and his fellowmen in the band or tribe, compelled each of them to seek for some power. Their practical everyday experience is seeing the superiority of the animals and plants



in the solution of such problems as we have seen led them to pay homage to plant and animal life as protector and life-giver and sustainer. This as a symbolic representation develops into Totem. Each band or family-group in a tribe begins to owe its allegiance to some totem or other. The collective function of each totem is the subject-matter of totemism. The totem of each group becomes the repository of the power that gives or has given in the past such protection against the simple but insistent dire wants of life. The simple belief in the totem minimised and helped their life problem. But afterwards some individual got more satisfaction in believing in some different object either animate or inanimate other than his group-totem. This is the individual totem. The intermediary of those two totems is the sex-totem. The fulfilment of sexual urge or its gratification is a necessary impulse in the struggle of existence of life.

If we review some of the earlier viewpoints of totemism we might glance through the encyclopaedic work of Frazer⁵ and find out how McLennan, Robertson and Jevons saw that Totemism 'had influenced the religious and social history of mankind' or how 'it lay at the root of Semitic religion' or 'was a rude scheme of society and superstition wherein were the germs out of which not only all religion but all material progress have been evolved.' Frazer—himself disposed to start with the Australians as an example of the most primitive culture (as Wundt built his system on the assumption of the Veddas being the most primitive or as Lowie emphasises the case of the Andamanese or the Tierra del Fuegian in which he is fortunate to be in the same position as the great Durkheim)—quotes the tradition of these tribes who suppose that in certain far-off time to which they give the name of Alcheringa, their ancestors roamed about in bands, each band consisting of members of the same totem group.

The real sense and the underlying belief or the fundamental notion of totemism was attempted to be explained by Durkheim. Frazer's definition of totemism tends to show the subsequent developments of animism, naturism, shamanism and religion. According to Frazer totem is a class of material objects which a savage regards with superstitious respect, believing that there exists between him and every member of the class an intimate an altogether special relation.⁶



Durkheim's belief of totemism being more primitive than animism and naturism as against the Tylorian attitude which takes totemism as a mere form of ancestral cult and a part of animal worship, is based on a far deeper analysis of the fundamentals. Durkheim has elaborately explained by a searching analysis why totemism is not a mere system of taboos or just a phase or a part of animism or of ancestral cult and ancestral worship. He is of opinion that religion develops from it.

The present-day attitude in religious belief and primitive belief is the same so far as the sanction is concerned. What religion does for the masses to-day the totem of the primitive world did for the savage and served humanity as well. The underlying spirit in the belief of any form of religious emblem is the same as in the case of the totemic emblem. The cross or charm, the mosque or temple, of to-day is exactly the same institution as the totem symbol and marks out the prohibitory area with regard to each totem.

The gradual steps leading from totem to religion may be this. In every primitive band some individual get the uppermost position. He becomes the director of the band. The totem has a direct communion with him. He directs the band and selects in many cases what would be the totem of any individual. The band as a whole possesses this belief toward the individual. Afterwards he becomes the shaman. From shamanism and the totemic concept underlying it originates religious belief, as in totemism some conception of impersonal universal force is involved, *i.e.*, totemism itself is a religion. The primitive mind rests satisfied with it. Totemism is the religion not of such and such animals or men or images, but an anonymous and impersonal force, found in each of these beings but not to be confounded with any of them.

The behaviour of primitive men towards their totem animal or the whole class of animal of the particular totem guardian spirit has a remarkable bearing of the acceptance of his guardianship by the people.

"The bear is treated as an honoured guest who must not be offended."

Among Siberian tribes bear-festival is performed throughout the country.

"It is the common duty of clansmen to feed the bear, and to take



part in bear festival, when the bear either tame or wild is killed. This festival has both a religious and social significance."

"The Eskimo is very much afraid of bears. Yet he is the first to admit that the bear is capable of acting like the finest of fine gentlemen. A woman was in a fright at seeing a bear and so gave him a partridge; that bear never forgot the trifling service, but brought her newly killed seals ever after. Another bear saved the life of three men who wished to reward him. He politely declined their offer, but if, in winter time, they should see a bald-headed bear, will they induce their companions to spare him? After so saying, he plunged into the sea. Next winter a bear was sighted and they were going to hunt him, when these men, remembering what had happened, begged the hunters to wait till they had a look at him. Sure enough it was "their own bear." They told the others to prepare a feast for him, and when he had refreshed himself, he lay down to sleep and the children played around him. Presently he woke and ate a little more, after which he went down to the sea, leapt in, and was never seen again."

In spite of all that has been levelled against Tylorian dreaming savage by the subtle logic of Durkheim and remembering the sceptic attitude of Lowie and his attempts of rehabilitating the Tylorian position in his *Primitive Religion*, it is worth while examining the value of dreams in an analysis of primitive life. When we find the cats pawing while asleep it seems that they are dreaming perhaps of catching mice and we may concede at the outset that the state of dreams is within the possible states of experience of primitive man if not of animals as well. In an experimental psychology class in Yale which one of the authors attended there was a class on dream psychology when each one stated his dream experiences, and apart from trying to illustrate the dreams as suppressed desires as Freud would have it (which was not a dominant idea in the class) there was an attempt at analysis as to how far dreams were correlated with physiological conditions, how far they could be induced, how much they reflected the subconscious, and how far some external conditions interpenetrating the semi-dreamy consciousness of an individual accentuated or diminished the external accompanying sounds. In India the belief of experiences of the individual in the subconscious as carried over from his previous births is still believed in or accepted as part of the dream experiences of at least some men who claim to have



transcended the limitations of normal sense knowledge by practices of concentration of mind. One of the modern Anthro-philosophers of Bengal, Mr. K. C. Sinha Satyasrayee, thus spoke about dreams: "Dreams and thoughts are not bereft of all significance. One can understand the state of one's mind from the objects visualised in his dreams...The things which have the greatest pull on one's mind in his innermost core float into visual range...The finer causes of the future are laid deep in the present. If these causes come to operate on our *chitta* or consciousness, we come to see future events in our dreams. The thoughts of the day are also visible during the night as dreams. If the sleep is not deep, if at that time any condition of the external world is brought back to the mind in a slight manner we feel that deeply. While falling into a semi-asleep condition even a pillow lying on the body is felt as a heavy load. As in the waking state various thoughts arise in the mind, in a state of sleep also various thoughts may flit through the mind and be visible as dreams. There is a mutual relationship in our ideas. As there is a mutual likeness between a class of ideas they mutually attract each other. Our association of ideas may also be of various types. In man the ideas of his previous births are also laid deep in the dormant stage. If the ideas of the present life is by any means the same as the ideas of past life it begins to attract the thoughts of past life. If such a condition happens in a state of dream the conditions of past life are also visible in a state of dream. We may understand and are accustomed to understand many truths with the help of examples or similes. Thus from many events seen as examples we may come to understand the things which they stand for. It is very hard to enumerate and exhaust all the causes and ways of dreams."

We have seen that primitive man on account of his helplessness takes to envy the free life of plants and animals and to wonder at their simple solution of life problems which they think are due to superior powers and foreknowledge of natural phenomena and he comes to think of them as possessed of secret powers of speech like man, and gradually there is development of mediumistic powers in some who seem to be the spokesmen of these supposedly superior Type-Animal or Type-Plants and the ascribing of ancestorship becomes prominent in ideas where the alcheringa days of superior ancestors are predominant concepts or they become guardian spirits where the struggle for



existence has made men more dependent on his animal-fellows and, where these are in the background, a mere carrying on of older ideas is just maintained in the system of taboos. Now in an area where the Eskimo lives in company with his gentlemanly bear-associates who are the only dominating living phenomena of the area, it is but quite natural for him after such an experience of warm friendly greetings from a bear as narrated before that falling down to sleep he will dream that a great bear is his guardian genius and is saving him from all other animals outside and is guarding him from other animals that have come to attack him. Now as soon as he comes out of his enclosure he dreams that the bear hugs him fondly and lies down and begins to sleep in great contentment and he could feel that he was the lap of his guardian genius who might have been his ancestor as well as his totem.

We can now go back to Frazer who in his *Belief in Immortality* (Vol. I, pp. 139-40) points out how the savage has faith in the truth of dreams and his faith in 'the reality of dreams has been one of the principal sources of the widespread, almost universal, belief in the survival of the human soul after death. It explains why ghosts are supposed to appear rather by night than by day, since it is chiefly by night that men sleep and dream dreams. Perhaps it may also account for the association of the stars with the souls of the dead. For if the dead appear to the living mainly in the hours of darkness, it seems not unnatural to imagine that the bright points of light which then bespangle the canopy of heaven are either the souls of the departed or fires kindled by them in their home aloft.' Thus the stars come to be associated with the souls of the dead. As the totem is looked upon as the father angel spirit so it is immortal and lies in a better world in heaven. Thus in time the polar bear comes to correspond with the polar star in the sky. Is it not strange then to find, in Hindu Mythology, that the home of the dead is given as in *Bhavar-loka*, the region of the polar star—development of the same lines of thought as of polar inhabitants like the Eskimos coming gradually to identify the polar star with the bear-totem. Thus we perpetuate perhaps the original totemic idea in the name of the stars of the *Great Bear*. In Hindu mythology they are the stars of the seven great ancestral sages to whom offerings are made on the occasion of the annual water-tarpana or offerings to the ancestors. In Sanskrit they are named



Sapta (seven) *Rishi* (sages) and one wonders whether this has not been a variation of *Sapta* (seven) *Riksha* (bears). Similarly one likes to get at the connecting links of the idea which makes a bear friend of the epic hero Rama along with monkeys in his march to the south to fight against Ravana. What then is the lost history to be traced behind the bear-totem people and their possible migrations from a northern home where alone the bear should have such important functions as a helpmate of man?

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JURISTIC ETHNOLOGY OF THE MEITEIS AND THE NAGAS

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Manipur Sana Laipak—the golden land of the Meiteis—a gorgeous valley lying between lat. $25^{\circ}50'$ and $25^{\circ}3'$ north and long. $93^{\circ}10'$ and $94^{\circ}30'$ east is full of undulations and hills forming a marked contrast along with its civilised, organised state, with the surrounding mountain heights teeming with wild tribes who were head-hunters not very long ago. The hills around it practically shut it entirely out of the rest of India and probably this feature as a blessing in disguise has helped to a great extent to preserve some of the peculiar customs and traditions intact even to this very day. The fertility of the soil, the evergreen country with luxuriant vegetation, rivers, and magnificent lakes have made life extremely easy. In an area like this it is all the more interesting to find a halfway house between the Vedic system and the primitive system of Hindu government and judicial machinery. It is perhaps in the days of strong cultural and political organisation in ancient India, that Manipur could keep regular contact with that higher civilisation along 134 miles of dangerous road not very long ago maintained from the encroaches of nature and the inroads of the hunting tribes.

In the country of Manipur itself the people of the valley and those of the hills present many anomalies and divergences. These in relation to each other and in relation to the systems



of India as a whole present again many difficulties in the way of analysing in terms of economic, social and political factors, with necessary exactitude. Further, in such an attempt not only does the size and diversity of India (together with its literature) prohibit a cursory survey of the whole, but its environments, which have been particularly adapted to the diffusion of culture traits, come in as an important factor in the correlation as well as classification. Again among the inhabitants of Manipur we find contradiction in cultural details which are advanced economically and socially at the same time, exhibiting certain features which we have to call backward in relation to their economic and social strata.

In this paper no detailed study of the social and judicial life in correlation with economic environment has been made but an attempt has been made to put together certain facts which do not seem to have been well dealt with by previous writers. Wherever new suggestions have been put or old theories questioned the author's authorities generally are writers imbued with the evolutionary standpoint. The people dealt with have scarcely any trace of written codes. Custom and tradition controls the life of the different components of the community. The Meiteis have of course a definite organised machinery for the administration of law. Prof. Hodson in his monograph "The Meitheiis" has given a fairly good description of the judicial and administrative machinery of the Meiteis, but the importance of his work chiefly lies in the fact that a close relation with the Naga and Kuki systems has been assumed everywhere. But a closer analysis of these shows no doubt a territorial principle as a governing factor among the Meiteis whereas among the Nagas and Kukis it is the kinship principle.

In the economic classification the Meiteis may be placed in the highest grade of agriculturists, who obtain crops from seeds sown broadcast on a large scale. The use of the plough with cattle harnessed to it gives them paddy harvest each year. Crops are



grown by rotation. The study of annual calendar shows the march of seasons and the work imposed in the domain of food pursuits among the people.

Time has elapsed since the clans have divided into family-groups called *Yumnaks* some of which indicate the occupations which they might have held in the days of yore. The Meitei who heads the stratum of clans is associated with herds of cattle and we had the *maiba* or priest-doctor as an influential personality until a very recent time. The powers exercised by them on magical and religious lines and the punishment by ostracism prevalent among them reminds us of some connection with the tribes of Borneo, Micronesia and Polynesian islands.

The chronicles show how the Meiteis have united the small states into a big state and how the upper and lower strata of society formed in the meanwhile, gave rise to the great politico-economic system of the Laloop. Here a large number of non-producing persons—the *pibas* or the head of the families or clans—had to serve the rulers as their bodyguards. A graded organisation and officialdom arose to manage this Laloop which also provided the military and labourer class. With the growth of aristocracy the labour for tilling fields began to be commercialised, as it is to a great extent now-a-days. The detribalised peoples, such as the Lois, were thrown in a lower rank and had to pay taxes to the state, while the others were exempted in consideration of the Laloop.

Although a considerable reorganisation has taken place since the days of Maharaja Gambhir Singh owing to the introduction of a standing army as well as owing to the influence of Hinduism and to their connection with the British since the middle of the 19th century which has completely altered the older ideas of landownership, their culture is intact in its main features and may be taken as a representative example of the old Meitei civilisation. Principles like the reservation of king's lands, etc., and the constant supervision of the agricultural works



by the institution of "Keiroithou" through its functionaries speak of the long-forgotten trend through which the conception of ownership and landed property might have passed.

The present Meitei system of Government is monarchical. There is also a regular form of public justice exercised by the representatives of the king, taking cognizance of tribal or sacred offences such as breaches of tribal law, marriage rules and ceremonial offences. The three courts of Cherap, Panchai and State Durbar administer the unwritten law with a system of regular trials in which oaths and ordeals are used and award punishments. The government further is characterised by the remarkable manner in which an older clan organisation has been subordinated to the king in whose hands all powers have been centralised. He regulates all marriage laws and decides anomalous cases arising out of matrimonial irregularities assisted by a council of Brahmins. He also is their religious authority. The king marries generally a Meitei girls of the Arām subclass.

There are seven clans or *saleis* which since the introduction of Hinduism have grafted on to each of them a Brahminic Rishigotra. Some of them are also connected with flowers or animals which their presiding deity has preferred. These clans have under each of them Yumnaks (house names) or family groups which inspite of the introduction of the *gotras* is still the operative factor which regulates marriage *inter se*. All clans are however exogamous except some Yumnaks among them and descent is reckoned in the father's line. Each individual has two names, a birth name or Christian name and a second or secret name which he takes upon him together with food taboos on the initiation ceremony which entitles him to become a full-fledged member of the Meitei society.

The smallest social unit of the state is an extended family, while for judicial purposes the unit is the village and the society in the village is founded on common fealty—men obeying the laws of the country formulated by the king in council and each village forms not only a convenient living place of the people



but also an organic part of the whole social structure. The social unit here of course is not to be confused with villages where communities are grouped together generally, owning land in common and dealing as units, as individual property in the ordinary legal sense. So the Meiteis may be said strictly to possess a village organisation and having no village community and on this point also they differ from the neighbouring tribes of Nagas and Kukis.

We are aware of only one sort of association into which a village was divided namely the *singloops*. These *singloops*, on the one hand, performed the village *khullang* or co-operative labour and formed a very important organ in the organisation of the *laloop* as has been indicated elsewhere¹ and, on the other, dealt also with state politics. It was linked with the central organisation through 3 officials namely the Gopal-sanglakpa, Gopal-hangaba and Gopal-hidang. The other association—the Keirup—has been of serious trouble for its being so long understood as the tiger cubs.² The chronicler gives the names of four Keirups into which the valley was divided under the headship of the Keirakpa. Kei has always been associated with agriculture and also differs in tone with the same word meaning tiger, while we have the Keiroithou and the Kei slaves to look after royal food-stuff.

Before passing to the social and political organisation of the Meiteis one further feature of their economic life must be noted, which is comparable to that of a large area in Africa. This feature is the scale in which certain kinds of works are carried on. The building of houses in the palace enclosure and of the many principal and subsidiary enclosures surrounding the capital, groups of houses within, involved the co-operation of hundreds of workers who perhaps used to furnish also the building materials and whose task required continuous application of labour for weeks and months at a time. Further the making of

¹ Calcutta Review, Sept. 1934.

² Ibid, p. 371, Sept. 1934.



roads which connected the different towns and districts in Manipur with the capital and other principal towns was even a more laborious undertaking involving still larger number of working-men who were furnished by local communities. These aspects of industrial enterprise may well be compared to that among the Baganda and the peoples of primitive America, Australia and Siberia.

Not very long ago and contemporaneous to the British advent, the country was divided into four Pannas. Hodson speaks of six Pannas¹ as well as the records of Manipur credit King Loiyumba with the establishment of six Pannas. King Khagemba reorganised them on the basis of four, namely :—Aballup meaning the society of elders, Naharup or the society of youngers, Khabam and Laipham. The Khabam Panna is associated with Khabanganba clan. Each of these provinces were placed under the rule of a governor who used to live at the capital like the Peruvians, for at least a part of the year. The distinct bodies of *singloop* and *keirup* are described as the body under the Piba or head. In almost every village there existed regular tribunals whose jurisdiction extended over petty offences. The village co-operated as a whole in religious or social and economic matters ; the leadership for these purposes rested in special families and individuals. Is it not possible to compare the curious association of socio-economic and political organisation namely the existence of rich and influential families or leaders with rice culture with the same sort of institutions of the Malayans ?

Another most striking feature of the socio-political economic organisation of the Meiteis was the unique principle of the system of "Laloop"—free and

" The Laloop."

¹ The fifth and sixth Pannas are not to be confused as territorial divisions. They are really the divisions of the inferior group, the Phoongnai, as contrasted with absolutely free-men, the Meiteis. The management of the Phoongnai was by the Phoongnai Loisang and other communal offices for controlling labour for the royal household. Thus Potsangbam, the 5th so-called Panna, looked after the royal mats, clothes and sacred thread while Hidak Phangbam was in charge of royal Hukka tobacco, pulse and molasses. They were not of course slaves.



compulsory labour due to the state in lieu of the taxes. Every adult male member who could cultivate a "pari" (a measure of land) of land had to serve the king ten days out of forty with the proper work of the grade to which he belonged. The *pibas* or the heads of the families were bound to enlist the proper man in the "Khundin," the executive machinery of the "Laloop." The social structure of the village was classed into divisions for the maintenance of the "Laloop." The first group comprised of the *pibas* or the heads of the families and the tribe. They were immune from the dangerous part of labour. They held the family gods and attended on the king. The second group formed the most important section of the "Laloop," having the responsibility of all the works of the Laloop of that group and as such they had to perform all the heavy duties in and for the "Leikai" or village. The third group consisted of the "Lalmes" or the militia. The fourth was called "Sungsaloi" or the workers on roads and bridges who worked in unison with the second group.

To give this economical system of Manipur a degree of completeness we have to deal with the Meiteis as forming into two divisions with regard to labour. The first one was called the Meitei, the superior class, and the other the Phoongnai, the inferior class. The Phoongnai was divided by Hodson into "Hidak phangba" and "Potsangba."¹ An account² of 1881 includes "Tenkhul," "Kei" and "Ayokpa" in the same group. The "Tenkhul" was associated with horticulture while the Kei used to "provide and pound rice for the Royal household." The Ayokpas, probably captives of war, were included in the category of slaves for large services to the state in all its works, administrative as well as private. "Both the Phoongnai and Tenkhul," says Hodson, "were originally slaves of the Raja."³ The local traditions no doubt class them under a group

¹ Hodson, "The Meitheis," p. 64.

² Gazetteer by Lt. Dunn.

³ *Ibid.*



inferior to the Meiteis probably because of their mixed origin—from the Meiteis and hillmen.

For a thorough management of the *laloop* the economic-military institution, Meiteis were divided in four "Pannas" or geographical units namely "Ahallup," "Naharup," "Khabam" and "Laipham;" the "Phoongnai" was divided into Potsangbam and Hidak phambam. Each of these Pannas had an elaborate list of officers who were also entitled to sit as a judicial body of the state. Further each of these Pannas had two separate departments, one for the service of the king called Sanglen and another for the service of the queen called Sangguba. The Phoongnais in the Rani's service were named "Leimanais."

Each Panna had villages under it and these villages returned officers who occupied some of the official seats in the Panna. These were never chosen or elected but formed out of the heads of the families who by virtue of their being so, held the sceptres of their groups.

In the partly theocratic organisation of the state there is a remarkable parallelism with the Peruvian system which is much more strong however when we consider the older form of state socialism in Manipur which has now entirely disappeared. We may compare this organised principle of labour with that of Peru which also was based ultimately on agriculture and where, as in the Meitei state, no man was exempt from agricultural labour or from military service except by special privilege. Both in Peru and Manipur weaving and spinning were almost universal though the selected groups of artisans for mining and metallurgy and stonework were very rare. In Manipur there is a definite set of artisans near Wangu who are, from time immemorial, mining the salt from the wells and drying them in pans in ways reminiscent of the Pacific regions of Polynesia. In Peru agricultural land was divided into church lands, common lands, and royal lands, providing the maintenance of the royal household which probably previously furnished the bulk of royal income and

Comparison with the
socialistic organisa-
tion of Peru.



thus the state revenue : the common lands in Manipur corresponded to the clan lands which were owned by the Saleis. Each clan had a "Piba" for whom distinct portions of the clan land units were arrogated for the purpose of clan worship. If the Brahmin priesthood had not come in as a separate factor ; the theocratic tendencies in the state might probably have resulted in the centralisation of these Piba lands into something like the church lands, by virtue of their holding the clan or family god, which went in support of the sun-priesthood in Peru. Very similar to Peru we had the Manipuri Communal overseers of labour, *e g.*, Thumjao Puren and Thumjaorongba, overseers of salt, Ahallup lakpa, the chief overseer of "laloop" in the Ahallup Panna with his staff and so on. A strict census of the adult male labour available in each "family-group" had to be maintained by the head of the family group, the "*piba*," for the central labour bureau, the "Khundin." There were also provision for roads and rest-houses in pre-British days, but the analogy stops here. Though there was the control of the state for supplying the militia and public utilities, we have no sure record of the produce of the land being centralised in the royal storehouses. Each family group generally maintaining its own granary handed over no doubt a portion to the state. This portion of the grain taken by the state does not seem to be in lieu of taxes and the grain stored in the family granary was for the maintenance of the whole labour system while that taken by the state was for the distribution to the officials maintaining it. For the entire labour was commandeered by the state, yet the labourer had to do public service providing himself, for his own food, from the family granary. Each one had to serve in rotation, for a certain number had to be left at home to raise the crops for feeding the entire labour population. It is only with the advent of the British perhaps that regular tax is being imposed and the land revenue department had been organised directly by the British officers. Previous to that the entire individual obligation to the state was paid by labour and labour alone, and as the state did not maintain labour directly, it had no necessity of



commandeering the entire produce of land in the central granary.

This comparison with the Inca system holds good so far as we speak of state socialism and may be contrasted with it as the Meitei system is not a bureaucratic socialistic despotism like theirs. Is it not possible that the monarchical community with a theoretically despotic king of the Meitei adopted these socialistic principles together with the adoption of theocracy and deification of the king. Some of the stages to this day are proclaimed in the story of the presentation of the image of Vishnu still regarded as the person itself of the king by Kingkhomba, Raja of Pong. This deification of the king further had an important consequence; it prevented him from freely mixing with those below him; no noble, however high in rank he may be, could enter the presence of the king unless barefooted, a behaviour quite contrary to that prevalent among the dwellers of the hills.

While the political administration was centralised in the hands of the king assisted by the Brahmin priest, the details of judicial administration were left in the hands of clan-groups mainly as also in some primitive associations or secret societies as well as the labour bureau of "khundin."

Kinship groups and households owned property and formed units of ordinary affairs. Property consisted of movable property such as goods, furniture of the household, its equipments, cattle, tools, weapons, slaves¹ who were *minai chanba*, and wives.²

Economically, as we have seen, Meiteis are agriculturists, hence the *laws regarding property* dealt particularly with land and its relation to the things upon it. The immovable property is individually owned and inherited, from parents to children. The land was inalienable; it could not be bought or sold under the native law, since it belonged to the individual, his family and his heirs in perpetuity. The owner had full right on the land, on everything upon it, could plant or cultivate anything he liked

¹ Cf. Hodson, *ibid*, footnote, p. 90, and Maccolloch, *ibid*, pp. 24-25.

² Maccolloch, *ibid*, p. 19, and Hodson, *ibid*, p. 91.



in his portion. He could of course pledge or pawn his land for his debts. He may give the use of his land to another for cultivation with or without rent. Such an occupier does not acquire any right on it by prescription, so he must evacuate the land at any time after the harvest, if the owner gives him notice. In the older revenue system the land was of two classes: the Phamlon held by office-holders and the Tounarau, held by ordinary cultivators.¹ The Tonarau was regarded to be owned absolutely by the man who had it, provided he contributed the prescribed amount of Fan (paddy) to the royal treasury.

Rights of way through another's land were recognised whenever necessary and such trespasses were sanctioned. There are rights of way by the general public for drinking purposes through every land which adjoins a stream.

Borrowing and lending was and still is of everyday occurrence owing to the continual obligations to give feasts and perform ceremonials. Sickness or death of a kinsman or other member of the family, and the payments of fines are a continual drain on a man who has to borrow to make his obligation good. Debt is a sacred thing and is thus inherited along with the assets. Dr. Hodson had well described the enforcement of debts as well as the pawning of himself, his slave or his wife.¹ On my enquiring other methods of realising debts one set of informers gave me that "Dharnā" was not practised but to others, when I showed them the injunctions in Manu, VIII, 49 and Brihaspati, XI, 54-55, they seemed to affirm it, as such further verification is necessary on this point.

Contracts on oath and before witness were enforced. The oath to be taken was settled by the custom of the locality. A contract would terminate on mutual assent.

In the domain of *Criminal Law* the Meiteis recognised murder, manslaughter, assault and theft, sexual irregularities, mainly breach of the laws of exogamy and breach of marriage

¹ Hodson, *The Meitheiis*, p. 89 sq.



rules. The major division of crime was crime against the king and revolt against authority. The crimes against the king mainly is treason which was punished with death by drowning with all followers or whipping to death, while any woman in it was eternally confined. The statutory punishment for adultery was realisation of a fine of Rs. 50 from the adulterer followed by a divorce. Rape is rare. Murder is almost always punished by death, though sometimes a distinction between design and accident was made in which case mutilation was inflicted in the belief that the thing happened by being instigated by the evil spirit. Theft was generally cattle theft and was in early times punished with death. A thief was flogged for the first offence, mutilated as punishment for the second and put to death for his third. But later on banishment to a *loi* village together with a degradation of caste was substituted for death. The punishment in case of a woman was banishment or what the Chronicles called Khungoinaba which Prof. Hodson¹ has graphically described. The custom and procedure was to put the murderer to death in the same way as he committed it.

In order to understand clearly the juristic concepts and political institutions as correlated with economic type of life and material culture as well as definite psycho-sociological or psycho-ethnological tendencies, we would study side by side a Naga tribe on the one hand and a Kuki on the other, contrasted with the complex constitution of the Manipur State.

The lifelong studies of Dr. Hutton have enabled him to dissociate completely the Naga from the Kuki culturally and perhaps mutually. To us the important distinction would be to recognise in the Kuki a "migratory habit," a predatory instinct and a nomadism in strong contrast to the Naga's attachment to the village site and the ancestral grave. On the other hand the possession of a bachelor dormitory as a separate building is more in evidence amongst the Nagas. It is very hard to generalise

¹ *Ibid.*, p. 68.



features of difference all along the line. Outstanding linguistic and tribal features mark them out as separate entities. But there are many Naga tribes as well as quite different Kuki groups who differ amongst each other to a large extent. There are also Naga tribes within Manipur and outside it and similar is the case with Kukis. While it is premature to attempt to find out a Naga prototype common to all Naga tribes or a Kuki primitive substratum, we can at least find Naga and Kuki tendencies in contrast with Manipur system or outside it and thus arrive at a different socio-political force operating more or less in the same environment under different cultural conditions.

We pass on first to the Angamis who are mostly found outside the pale of Meitei influence though known to the latter as the Angamis. They offer many remarkable points of contact with the Meitei system, showing more democratic tendencies and age-groups rather than a hierarchy of clans and officials. These peoples are active and warlike highlanders divided by internal feud seem to be a homogeneous community of hunters and agriculturists having no social stratification and distinction of rank due to birth and wealth. Simultaneously again we have besides the agriculturists, a group of artisans, viz., blacksmiths, potters, etc., as well as hunters and fishermen. Thus they may be placed now in the second grade of agriculturists—the grade in which the produce of the soil forms the main source of subsistence though hunting and fishing have not been abandoned. But while akin to the Meiteis in definite settlements and segregated occupational groups their original dominant texture of hunting and agricultural life is the predominant note while amongst the Meiteis it is now-a-days industrialism. Thus it is that the Meiteis developed more fully the state while the Angamis had nothing better than petty chiefs and local councils. The democratic council also indicates a less rigid constitution and hence less centralised administrative and judicial machinery and greater functioning of customary law.



The Angami villages are organised on the basis of kinship but the whole tribe is regimented into mainly three confederacies namely the Angami pure of the Khonoma group, the people of the Kohima group, and the Chakrima group or the Eastern Angamis. They are related to the Khoira Nagas on the east, Katcha Nagas and the Kabui Nagas of Manipur. Again a close connection between the Angami, Sema, Ao, Lhota, and Rengma Nagas is indicated from their legends of origin, one of which describes the Angamis as the eldest branch. Linguistically, Sir George Grierson places the Gnamais in the Tibeto-Chinese family under the Western Naga sub-group of the Assam-Burmese Branch.

They are organised into exogamic political clans. Their organisation as a whole and their tripartite grouping with all its societies is bound up very intimately with a rich ceremonial life. Descent is always patrilineal—all the property is divided between the sons, the eldest getting the best field. The villages are all situated on the rugged crest of the Naga Hills where climate and soil allowed extensive cultivation. Most of them were in fortified positions or were constructed on spots which admitted easy defence. When natural fortifications were lacking ditches and ramparts were constructed. The number of rectangular huts all having a tendency to face east give the village a perfect poise and forms a seat of economic organisation. What attracts most in the sociological analysis of the Angami constitution is the *morung* or bachelors' dormitory serving also the purpose of plaza—a great rallying point of village life. All consultations are held in this *morung* which also serves as the hall of justice and at the same time it sanctions all sorts of operations.

Of paramount importance which bind together the members of the village community are the bonds of kinship which break up the village into a number of distinct groups. In this process of regimentation the Angamis form a close parallel to the Bontec Igorot of the Philippines with similar terraced agriculture who also are organised in large family groups and several such family



groups are combined in a large political unit similar to that of the Angamis. Each of the political units of both these tribes has its separate house of justice with a governing council of elders that make peace and challenge war and so on. In both these tribes again the complex unwritten code is recognised by all the people and infringements are avenged by blood feud—the members of the wronged family hunted the head of the transgressor and if they succeeded they were retaliated in the same way.

In their economic life there is great similarity and besides their developed system of terraced agriculture, they hunt wild animals, herd domestic animals, do some fishing, make implements of iron, utensils of wood as well as pottery and basketry along with their rice culture.

In these distinct groups or the clans all the members are usually related to one another by common descent. Thus the socio-economic unit takes its stand on the tie of kinship rather than on the common fealty or common land and men obeyed the laws of this kin group. The descriptions of Captain Butler and Captain Woodthorpe speak of the Angamis as possessing "no regular settled form of government. With them might is right and this is the only form of law or rather the absence of all law—heretofore recognised among them (Butler, J. A. S. B., XLIV, p. 314). Every man does what he thinks right—a form of democracy very difficult to conceive of as existing even for a single day yet it exists here is an undeniable fact" (J. A. I., XI, p. 68). This description of the psychology of the people seems to be more dominated by the idealistic conceptions of the noble-savage and does not seem to be actually warranted by facts. Each man is never for himself; he is a representative of his group sentiment—the interest of his kin—in a marked degree. The personality of every Angami is bound up with the kindred and clan and his

¹ Col. Hopkins in 1866 also speaks of these people as possessing a democratic nature of tribal arrangement among the Angamis. The infinite divisions and disputes existing even in a single village rendered it impossible to hope for success for the policy of conciliation *extra* proposed by Government. Also Mackenzi, p. 118.



kin is responsible for him for his misdemeanours as well as crimes—a case of collective responsibility. Further such association of an Angami with the whole society of his people may be described as tending towards communism where every individual is compelled to take a full share of the duties of his kin and broadly speaking, his tribe.

Each village had a number of distinct families usually consisting of a man and his wife with perhaps two or more children. Generally there is one house to a family though occasionally there can be more than one in a single house. The cattle and the poultry (the pigs generally occupying another compartment under the same roof) belong to the family and so also is definitely apportioned the jhum-terraces of each family. Thus the family is the nucleus of the individual economic cycle of life and activities. There is however the more important bigger group, *khel*, which we term “family groups”¹ as each consists of several families more or less bound together on traditions and bonds of kinship. They enforce important political and legal functions and the village is an aggregate of several *khels* and not of families. This is clear when we find the corporate body in the village—the village council consisting of the heads of the *khels*—“*punemahs*” and not the heads of the families. Thus the village council is a sort of a corporative jural and political unit constituted by the kinship grouping of *khels* and yet possessing territorial jurisdiction over all the *khel* lands. A third stage is discernible in the office of the Chief who symbolises as it were the territorial authority of the village. He is really a figure-head—the village council being paramount. But times of stress, danger and war have necessitated his existence. War, and specially head-hunting expeditions, lead to his election to an office and leadership.

The set of influential men called *punemahs* are also leaders of war presided over by the chief. These selected heads are chosen

¹ Cf. also Exod. XX, Num. XXV, Deut. XIX.



in each generation for their personal bravery and capacity, the test of which lay in war, valour and victorious head-hunting which is also a widespread trait in the social organisation among the Philippine tribes. In times of peace this institution serves as the judiciary of the village. Blood-feud and head-hunting are closely interrelated and this constantly strengthens the authority of the council and the chief and also calls on them to function. At times the cross-currents of kinship in blood-feud undermine the authority of the chief. What he and his council is to do is to persuade or dissuade the parties either by force of good nature or by reasoning so as to soothe their prevailing passions. This position presents an extraordinary combination of traits. The individual, as we have seen, owes allegiance to the kin and the kin owes protection to its members against other kins, suggesting a sort of disintegration into wholly dissociated units in a village. No doubt the absence of a central authority to render decision binding on different kins, the zeal of a member of a kin to avenge the misdeeds of another group, proportioned to his proximity of kinship, the disproportionately low political powers of a chief when compared with his social eminence, and the corresponding tendency of the people towards some sort of an individual independence supports us. Yet in fact the whole tribe unites all these groups into territorial units and this by the force of the customary law revolving about all the "kin groups" which every one follows silently.

One of the fundamentals of their customary law may be studied with regard to the *penna* and *kenna*, a most important and superstitious institution in their daily life, sustaining the whole fabric of their social organisation. Both the terms generically mean the same thing as the tapu and act as a restraining principle in the judicial as well as economic life of an Angami which he would approach and handle with caution, to prevent the occurrence of harm on his part. For the ordinary man such a thing is always to be avoided as it is believed to impart to the man who comes in contact



with it, some sort of mysterious quality which could only be removed by ritual performance of a magical kind. These *pennas* and *kennas* have again different degrees of intensity ; some are treated with greater respect than others ; the penalty of infringement varies correspondingly to the degree of intensity. Thus it assisted in the maintenance of law and order and its enforcement was of great help in the protection of private property. It further regulated their behaviour and enabled them to perform many things which they would not have done otherwise and served practically the purpose of coercive laws, on the belief that a sanction of supernatural punishment will follow. This gave the administration of justice a spontaneous or rather an intuitive course and was inherited along with the hearth.

The belief in the magical properties of the natural surroundings giving everything a material form as well as a life principle, acted as an incorporeal police. *Gennas* related to it and guarded the careless behaviour of individuals, thus regulating the life of every man by a system of stringent magical regulations for his welfare.

This authority is especially exerted by old men of the society giving the form of government which may be called gerontocracy. This body is marked from the rest of society by a sharp line. The function of this court of elders was to make equitable award so as to keep the peace and prevent the extension of wild and irregular blood-feuds. They do not go into nice questions as to the precise merits and demerits of the feuds, but prescribe certain tests, oaths and ordeals by which the appellant or the defendant may establish his case. It sets the litigant to attempt a test which if he performs he wins the case.

It should never be expected that the administration of law in the so-called savage and barbarous society of the Nagas, shall be surrounded with all sorts of legal formalities and safeguards on account of the



low stage of culture they are in. Yet they have regular forms recognised for procuring punishment of breach of tribal law or for reparation of wrongs. These are so well known that everybody knows them together with the methods of their invocation. Besides these, in the adjudication of every action each *khel* or kin-group thinks itself as an independent entity demanding a voice in all actions in common. Thus whenever anything of public importance arises or has to be undertaken, the whole village meet together in conclave so that in this respect every village forms a republic. Here again the council of elders takes the upper hand as a depository of traditions and at the same time, being the sanctioning authority, keeps pace with the *khels* individually whose rise to power was again checked by the blood-feuds, head-hunting, etc.

In the sphere of criminal law also kinship played a vital part, perhaps equal to the part it played in social organisation and social intercourse.

Criminal law.

In all offences again relatives stood as one. Each person here also could be responsible for the acts of his kinsmen. This principle of collective responsibility very well forms a basis of comparison with the Omahas of Nebraska where also the individuals were held responsible to their kindred and in cases involving two groups of kindred the one group was held responsible to the other as also with the frank pledge system of the Anglo-Norman. All the private crimes such as assaults, adultery within the kin-group were settled between parties and their relatives with the help of go-betweens. Offences which came under the judicial cognizance of the tribe fell into two groups according to their methods of adjudication and punishment. The first group comprised of offences which were to be punished immediately by the hands of the aggrieved person or his party and privy. These were the major offences like wilful murder and breach of rules of exogamy. For these, specially murder, no kind of machinery to determine his guilt or for reaching the decision concerning punishment was quite



necessary and the relatives of the murdered person speared the murderer at the very first opportunity without any reference to the council of elders, for killing him for the murder of his relative was a "sacred duty never to be neglected or forgotten." This theory of spelling blood to satisfy the injured party may be contrasted with that of the tribe of the Narringyeri administered by *tendi* for every "clan" where "all offenders are brought to this tribunal for trial." In case of murder the fellow clansmen of the murdered person will send to the friends of the murderer and invite them to bring the murderer to trial before the united *tendies*. An enquiry was made and if the murder was proved he was punished according to the degree of his guilt so that a murderer with malice aforethought was put to death by spearing while a manslaughterer received a thrashing or banished from his clan and so on.¹ In this category again the husband of a woman used to spear the adulterer on the first opportunity. The woman was also punished before the council of elders which is a contrast to the custom of Iroquois of North America² where woman was regarded as the only offender of adultery and so punished alone.

In the second category fell the minor offences like culpable homicide not amounting to murder, theft and offences against the society which were adjudicated before the council of elders and the usual redress was fine or restitution of the thing with payment of seven times the value of the thing stolen. A thief caught red-handed could be given the severest penalty known to men by the offender. However to charge a man with stealing without being able to prove it meant a blood-feud. Manslaughter and culpable homicide were punished by banishment according to the degree of seriousness.

Disputes regarding property were rare owing to the group interest existing as the unifying tie through the individualistic idea of proprietary right in the real estates, and the existence of

¹ Taplin, "N. T. S. Australian" as quoted by Hartland in "Primitive Law," pp. 171-72. Margan League, I, 321.



prohibitive taboos governing all these rights. Offences of breach of these rights were punished with fine probably paid to the village or the clansman as the case may be and of expulsion in cases of aggravated offences, from the village. The ownership in the terraces seems to be individual and as such subject to sale and division between the heirs as Dr. Hutton holds, yet we have in every phase of the Angami property the keen interest of the group so that the individual rights in a land-holding are subject to many claims on the part of the members of the kin and are governed, as we have said, by prohibitions having divine sanction. This conception of property exists side by side with the individual ownership in weapon, tools, clothings and other common articles and the conception of family and even individual ownership in food. Each family has its own plots of ground within the large cultivation area worked by the community which they could no doubt sell, and the harvest went to the private stores.

Rights of fisheries ended at the boundary of the village lands and are owned by the village as a whole while those in the special holes made, to collect these, by the owner of the terrace, are owned privately and any infringement of this right amounts to theft of a serious type.

Let us now come to the Kabui Nagas who are concentrated mostly in the south-western ranges of the Manipur hills. They have been living peacefully though hard pressed by the Kukis and are the oldest of the Nagas under the protection of Manipur State. Originally they were head-hunters. In one of the recent religious revivalist movement, as is common amongst primitive tribes, they tried to reassert the magico-religious values of head-hunting—I refer to the movement of Jadanung.

These people form the southern neighbours of the branch of Nagas whom Dr. Brown designated as the Kolyas. Almost all of the authors including McColluch, Brown, Damant¹ and Dunn have divided them into two groups namely Sungbu and Poeron living in fortified villages having dormitories for young

¹ J. R. A. I. N. S., Vol. XII (1880), p. 242.



men and women comparable to the Memis of the Kolya group. Dr. Watt (J. A. I., Vol. XVI, p. 350) speaks of the Kabuis having 3 great clans namely: 1st, Sungbu, 2nd, Koiveng, 3rd, Kaupui proper. In Damant and Dunn's¹ list the principal villages are Nangba, Kalanaga Lilanang and Lualong Khulal. Our information from the villages round the Kangjupkhul area revealed absolutely new names of the divisions; none of them know anything about the Sungbu and they classed themselves into Hame Kabuis and Pnerong Kabuis mainly, linguistically different from each other and proclaiming to be the old and new branch of Kabuis. The third classification was into Muringme, the dwellers of the plains, who mainly have matrimonial relations with Purongs only.

Hobhouse and others, on the authority of Dr. Watt, have placed them into the second grade of agriculturists, though some of the villages practise jhumming. But the rearing of *mithans*, pigs and poultry and in some cases their present use of plough brings them in relation with the Dhimals (Hodgson, p. 154, quoted on p. 25), etc. They with the Nagas in general further live in substantial houses of logs and bamboos, and use the hoe as their main implement for cultivating. The use and make of some musical instruments such as drums, sarengis in their dances and building of cane bridges on the rivers brings them to a still higher stage of culture. Thus it is very difficult to place them into watertight compartments as it is too late to dissociate from them the inceptions by culture-contact direct or indirect; as such we should take them as we find them, whatever the cause may be which brought them to the present level, when it is not possible to discern the more recent changes. But we may note here that in spite of this higher phase in culture, however, the living in bands in small villages with exogamous groups bound by the ties of kinship or supposed relationship between the members, fortified by magico-religious ideas, place them in a lower economic order.

¹ Gazetteer.



Villages like those of the Angamis are built on fortified spurs of hills protected sometimes by wooden palisades. Each family consisting of father, mother, sons and their wives and children live in a house. Unlike the Angamis all the clans in the village live in harmony and further the unity of the clan-groups is an everyday thing. Their economy is bound up with two main occupations namely, hunting and agriculture. The women of the household co-operate in planting and harvesting the paddy. Hunting and also fishing are pursued during non-agricultural days.

All the members of the community are organised according to a system of age-groups. The device of marking grades of social maturity by difference of coiffure and ornaments among them forms a beautiful comparison with Nagas as well as the Meiteis.

The whole society is associated with a rich communal life. Feasts occupy an important place in their culture and distribution of resources in the communal enterprise is an affair of excitement and pleasure. The division of sexes is well-marked during the genna days.

What attracts one in the village government of these people is the existence of a hierarchy of officials as a contrast to the Angami organisation. They are the Khullakpa, Luplakpa Meitei-Lumpu and a few more graduated in a rank. These offices are common to all the Nagas and Kukis of Manipur and among the Nagas in Manipur are strictly assigned to certain families and are hereditary ; while amongst the Kukis specially the Kom branch as contrasted with the Khongjai branch, every grade has to be entered in order by performance of a mock election. This Kuki system of gradual rise has its economic importance again, in the system of initiation to a new office. Thus when a man attains to a new office he has to give a feast.

In the Kabui government it will be a mistake if we associate the Khullakpa with government as well as with the administration of justice. He was a war leader and had a great voice in sending head-hunting expeditions. In the religious aspect of



warfare also he had a prominent position. This religious rather than a political institution made him hereditary. We may compare this function of chieftainship with that of the Eddystone Island in Melanesia.

In the sphere of law his individual authority is eclipsed by that of the village council. This feature is recorded by Dr. Watt in 1887 that amongst the Kabuis each village has its nominal hereditary chief who is however powerless the village being a miniature republic. This can be contrasted with the Angami division of a village into *khels* and the Mao (Memi) consolidation of a tribe under a single chief. Thus the Kabui living under the influence of the village council may be compared with such condition frequent amongst primitive hunting tribe. But it is also possible that the need for territorial integrity of the village for dealing with the state of Manipur led them to the adoption of a village chief not elected by kinship principle.

Amongst the Angamis the chiefship is not hereditary but elective whereas among the Kabuis it is hereditary. It is perhaps the peculiar correlation of religious functions with the office of chiefship that makes it hereditary and not the influence of Meitei example. This is further brought out clearly in the area from the following instances. The Kabui Khullakpa succeeds his father as he is associated with priesthood and he appoints a priest to assist him, for life. Among the Konyaks the office descends on the son on account of his authority in religion. In the Sema the chiefship is hereditary and he announces all the gennas except those relating to crops which genna-announcer holds his office for life. Among the Khongjai Kukis also his association with religion and thus his sacred position makes him hereditary. While among the Ao the ceremonial aspect of their life is associated with *puir-unger* who is the man in high esteem and his office is hereditary—the chief not being so like the Angamis* holds his position for life. But the Gennabura of the Angamis is an institution which descends in his line for good.



It is possible that the association of priestly function with the chief and at the same time the subordination of the religious office to a secular authority, is the result of the Meitei system on the one hand and the Kuki system on the other, or perhaps the hereditary chiefship is to be taken as a transitional stage from an elected chief to the feudalisation of the tribes in the area under a powerful political authority. It is however quite clear that a chief with theocratic functions is a much more powerful authority than one possessing merely secular authority. But it must be remarked also that the theocratic tendencies in the area are weaker in comparison to the federating and feudalising agencies which has led to the establishment of the smaller and bigger states and even of small empires such as the Aran, Kachari, Ahom, Meitei, etc. It is strange however that ethnographers of this area find the absence of any political organisation here, rather it is the bewildering variety of political organisations amongst the countless different tribes living in close contiguity to each other that gives rise to such ideas. Crude democracies, miniature republics, assemblies of the old few, autocratic chiefs, theocratic chief priests or dual rule of priest and the chief, confederations or single isolated units would be found in close juxtaposition in this area. The student of political theory may perhaps glean illustrations of all types of socio-political organisations in Assam and Upper Burma ; nay more, he can study the very dynamic forces in the making of different types in all their primitive simplicity here. Thus this is not the absence of political organisation but the variety and primitiveness of it that is the outstanding feature.

. Every village is a miniature republic which goes on smoothly, as all agree, to depend upon the strict observance of the natural laws of personal rights and property. There is no law-giver nor any elective governing body. The headman sits in the council to decide the crimes which are committed. The highest punishment the council can inflict is the expulsion from the village, otherwise blood-feuds may arise.



A SHORT NOTE ON THE PALEOLITHIC IMPLEMENTS SUPPOSED TO HAVE BEEN OBTAINED FROM THE SIWALIKS

By

DHARANIDHAR SEN.

[The following implements have been lying in the shelves of the Anthropology Department of the Calcutta University for over ten years. They were handed over to me by Rao Bahadur L. K. A. Ayer as having been collected by Mr. K. K. Sengupta from the Upper Siwaliks near Simla. More definite information about their locality or stratigraphy is lacking and is yet to be obtained. But as they appear on the whole to differ from the South Indian types where heavy *coup-de-poings* and round scrapers predominate and as a group resemble more the Chu-Kou-Tien and other finds in China (as described in *Archive de l'Institut de Palaeontologie humaine*), these implements are brought to notice here. In the light of the recent discoveries of the de Terra expedition, they seem to have an importance in so far as they appear to bring definite evidences of Mousterian man with a Soane culture similar to the Chinese and having some remarkable affinities with the early Kenyan, flourishing so far North as the Himalayas.]

With a few exceptions all the implements exhibited are undoubtedly Mousterian implements. Some have a technique very strikingly similar to the technique found in the lithic industry recently obtained in Sjarri-Osso-Gol and Choei-Tong-Keou in China. Though there are few of a different technique, these implements compare well with the Chinese as a whole. It is to be noticed here that this industry lacks the usual South Indian heavy *coup-de-poings* and round scrapers and can be distinguished by a distinct technique for the South Indian implements. The industry as a whole is characterised by the prevalence of lighter and smaller implements of undoubtedly Mousterian technique which stands comparison with the Chinese. The rock, in most cases, is pure quartzite or different types of the same. In two cases, the implements are of flint.



Of the total thirty-three implements described here, twenty-four can be distinguished as smaller ones measuring from 4.68 cm. by 2.57 cm. by 1.10 cm. to 6.55 cm. by 5.25 cm. by 1.47 cm. Of these twenty-four implements, ten can be distinguished as Mousterian Points (S6, S8, S10, S12, S14, S16, S18, S23, S25 and S31) of these ten, three may be described as Racloir-Points (S12, S23, and S25). There are seven Mousterian Grattoirs (S7, S13, S24, S28, S32, S33 and S35), and six lames (S9, S17, S20, S21, S 2 and S42) of which there is one Lame-Point, one Grattoir-Point and another *lame de couteau* (knife). There is one peculiar tool in the form of an arrowhead made of flint and slightly retouched at the margin but the point is blunt.

Of the nine bigger implements (S1, S2, S3, S4, S5, S11, S19, S27 and S43) varying in size from 6.80 cm. by 6.10 cm. by 2.13 cm. to 11.20 cm. by 8.65 cm. by 3.10 cm., there are five different types of *coup-de-poings* and of the remaining four tools, one may be a scraper axe (S 3), one a scraper-Point (S27), one, a peculiar tool which may be called a Point, and the fourth may be simply described as a Racloir (S10). A brief but systematic and typological description will be found in the following pages.

A.—Point and Racloir Points.

S10—May be described as a Mousterian Point. Comparable with the diverse types of Mousterian Points with retouches and obtained from Choei-Ton-Keou, China, as figured in Plate XXIII, Fig. 2 (Pal. Humane: Le Paleolithique de la Chine). Also comparable with S31 which is a concave type. This implement is a convex type with a difference also noted in the medial ridges.

S12—Racloir Point comparable with the flake with left margin retouched and superior extremity forming a chisel (*Eclat bord gauche retouché; extrémité supérieure forme ciseau*, Fig 2. Pl. XXX (Pal. Hum. Le Paleolithique de la Chine).

S14—Mousterian Point with retouches as in S10 and is strikingly similar to the Choei-Ton-Keou Point as shown in Plate XXIII, Fig. 4 (Pal. Hum. Le Paleolithique de la Chine).

S16—Mousterian Point, broad triangular with retouched margin. One face worked. May be compared with the diverse types of Mousterian Points from China (Fig. 1-6, Pl. XXIII). The edges are very thin and the point is very sharp.



S18—A peculiar tool which may be described as a Point, the point being broken at the head of the specimen. The edges are thick and rounded and not well retouched. It has a shouldered and crude appearance. The technique is very dissimilar with the other tools in this collection.

S23—Racloir-Point broad and leaf-like, well retouched lamellaire, median ridge concave. This type is rare in China. Here too it seems this type is not very prevalent.

S25—Somewhat similar to S23 but it is of convex type, leaf-like lameller, retouched but not so marked as in S23.

S31—Mousterian Point comparable with S10. Triangular or sub-triangular—margin retouched. Two lateral ridges strikingly similar to the diverse types of Mousterian points from China shown in Fig. 1-8, Pl. XXIII (Le Pal de la Chine). Very similar to S10 where there is a difference in the lateral ridges and which is convex, while in S31, we find a concave type.

S8—Appears to be a Mousterian Point but a crude type, worked on one side and margins without any retouch. A marked finger-platform on one side.

B.—Grattoirs.

The grattoirs are very meagrely represented in this collection. So also we find that in China, the grattoirs are much less known than the Points and the lames, both of which are widely abundant there. In this locality, the Point is more prevalent than either the lames or the grattoirs.

S7—Mousterian Racloir—concave and leaf-like, margin very sharp, wavy and retouched, one side worked and flaked the other left plane. Axe-like and may have been hafted.

S13—Mousterian Grattoir—Subtriangular, left margin very sharp but not retouched, convex. Thick butt end or hand hold at the two other sides opposite the sharp margin, where the thickness thins out.

S24—Very concave Mousterian Grattoir—one side flaked the other plane, very thick and raised butt at the end. Other margins sharp. A very beautiful and distinct specimen and gives a core-like appearance, Rhombohedral.

S28—Grattoir grosse (massive) convex. Facetted planes—left side



broadly lamellar—margins sharp but not well retouched, comparable with S13 but the handhold is not so thick and elevated more flat.

S32—Grattoir court (small)—convex. Leaf-like and lamellar. Margins not sharp neither retouched.

S33—Grattoir court (small) more or less convex, left margins not sharp and retouched. Sub-triangular apex ending in a point.

S35—Mousterian Facloñcvoic—margin retouched. Strikingly similar to the disque ovoide épais en quartzite (thick ovoid disc of quartzite), Fig. 5, Pl. XXII (Pal. Hum. Le Pal. de la Chine).

C.—Lames.

S9—Mousterian knife or blade (*lame de couteau*). Very thin curved tapering edge. One margin retouched and used as the cutting blade; the other is thick and rendered blunt so as to fit the hand and not in any way injure it. Slightly curved to the left.

S17—A very beautiful specimen of *lame grosse* (massive blade) slightly retouched at the cutting edge. Long slender blade faceted and striking platform one side flat plane. Comparable to the *grosse lame* obtained from China and shown in Pl. XXVI Fig. 1 (La Pal. de la Chine). The industry of *lame* is very in Choei-Tong-Keou where generally the technique is very mediocre and dimensions vary extremely. Here also we meet with almost a parallel case but no conclusion can be reached since the *lames* are poorly represented in this collection.

S20—*Lame court* (short blade) distinct in technique free from the last one (S17)—two margins sharp and retouched. Comparable to S21 which is smaller and edges more sharp and thin. This specimen can well be compared and contrasted with the blade with retouched margins (*Lame a retouches marginales*) shown in Pl. XXVI, Fig. 11 (La Pal. de la Chine).

S21—*Lame Point*, margin retouched. Comparable to S20 with differences already noted there.

S22—Short notched blade (*Lame court*). Margin sharp and retouched.

S42—Grattoir—*lame*. Sharp and retouched margins and very deeply wavy. Comparable to the tools S20 and S21.



D.—*Bigger Implements.—Coup-de-poings and Scrapers.*

S1—A very beautiful rectangular axe-type. Very sharp cutting edge, faceted and levelled. Heavy tool, thick butt-end very well suits the hand, the haft. It is a remarkable finished specimen. Comparable to the Kenyan specimen, Pl. III, Fig. 7, p. 45 (Stone Age Cultures of Kenya Colony by Leaky).

S2—A typical *coup-de-poing* roughly flaked over the whole of both the sides and with sharp irregular edge all round. Heavy with a thick butt-end and worked to a point by flake surface partially trimmed. Comparable to the Stellenbosch *coup-de-poing* (Lower Paleolithic Culture of South Africa), figured by Burkitt on page 73. Also comparable to the Kenya Acheulean unrolled *coup-de-poings*.

S3—A scraper axe-type—longer than round edges finely worked, and thin, suitable for cutting. The edge is more or less oblique. The scraper progresses slopewards to the sides from an elevated median part of the implement. The other face is all plane. Comparable with rolled *coup-de-poings* from the Kariandusi River site, Elemaenteita (Pl. III, Fig. 6, p. 45, Stone Age Cultures of Kenya Colony by Leaky).

S5—Scraper type—margins retouched—one face flaked the other untrimmed and left plane, median ridge.

S11—Scraper form, but unlike S5—the faces not flaked. Only there is a medial ridge and the margin retouched. Characteristically curved and convex.

S19—Grattoir grosse (massive)—Left side platformed for handhold—the other margin sharp and retouched. There is a notch at the base. Tapering and pointed at the head.

S27—Racloir-point—rounded or sub-triangular thick, seemingly a crude type, a peculiarly shouldered implement. Butt-end thick, elevated, heavy tool.



MEASUREMENTS.

No.	Specimen No.	Measurements.	No.	Specimen No.	Measurements.
1	S1	11.20 cm. 8.65 " 3.10 " 9.20 "	18	S20	6.50 cm. 3.34 " 1.28 " 4.78 "
2	S2	6.70 " 3.94 " 11.10 "	19	S21	2.92 " 0.87 " 4.68 "
3	S3	7.20 " 1.17 " 9.80 "	20	S22	2.57 " 1.10 " 5.24 "
4	S4	5.80 " 2.09 " 8.60 "	21	S23	3.62 " 1.40 " 5.81 "
5	S5	5.90 " 2.59 " 4.70 "	22	S24	3.83 " 2.40 " 5.91 "
6	S6	3.10 " 0.66 " 5.46 "	23	S25	4.80 " 1.30 " 6.80 "
7	S7	4.53 " 0.82 " 6.84 "	24	S27	6.10 " 2.13 " 6.55 "
8	S8	4.84 " 2.00 " 7.48 "	25	S28	5.25 " 1.47 " 4.35 "
9	S9	3.16 " 1.80 " 5.60 "	26	S30	3.12 " 1.15 " 4.68 "
10	S10	3.56 " 0.90 " 7.80 "	27	S31	4.50 " 1.24 " 4.65 "
11	S11	5.10 " 1.64 " 6.05 "	28	S32	4.34 " 1.14 " 4.50 "
12	S12	4.38 " 1.80 " 6.11 "	29	S33	3.78 " 1.10 " 6.49 "
13	S13	5.42 " 1.91 " 5.90 "	30	S35	4.71 " 1.42 " 9.20 "
14	S14	4.30 " 1.48 " 4.70 "	31	S17	4.20 " 1.30 " 5.74 "
15	S16	2.91 " 1.38 " 5.16 "	32	S42	3.50 " 1.08 " 11.00 "
16	S18	4.74 " 2.14 " 10.90 "	33	S43	5.60 " 2.31 "
17		6.20 " 2.65 "			



SABOUREAN BEADS AND BANGLES

By

SUSANTA KUMAR BOSE, B.Sc.

A good number of beads of various shape and size are found at the mesolithic site at Sabour. The most interesting among the beads are those which are painted. They have a very decent finish.

The materials used are mostly minerals of crypto-crystalline varieties of oxide of silica and broadly include opaque and colloidal quartz.

There are chalcedony of various groups—carnelian chrysophore, agates, onyx, jasper, flint.

Some of the beads have been perforated, some are in making. These beads could be so arranged as to illustrate the method of making beads from a crude stone to a finished one. The technique of work, as shown, consists in pressure-flaking and notching. Polishing is greatly marked in some of them.

In classifying the shapes of these beads we find (1) *Barrel-shaped beads*, (2) *Oval beads*, (3) *Round beads*, (4) *Square beads*, (5) *Hexagonal beads*, (6) *Rectangular beads*, (7) *Pentagonal cylinder beads*, (8) *Pentagonal beads*, (9) *Tabular beads*, (10) *Square cylinder beads*, (11) *Drum beads*, (12) *Plano-convex beads*, (13) *Circular beads*, (14) *Plano-convex pentagonal beads*, and (15) *Plano-convex elliptical beads*.

216 beads have been collected from a place about half a square mile in area.

Taking the *plano-convex elliptical beads*, Nos. 103, 140 and 151, we note—

1st group.—No. 103 is a transparent colourless crystal with a *plano-convex cross section* and *elliptical transverse section*. The



convex surface is rough. The plain under-surface has been flaked. It has not been perforated.

No. 151 is made of agate with two translucent bands at one end. It is white in colour with a plano-convex cross-section and elliptical transverse section. It is unperforated and unfinished.

2nd group.—Plano-sub-convex pentagonal beads :

Nos. 148 and 149 are the only two which have been shaped to a pentagonal transverse section with a rectangular cross-section. The apex of the convex surface is more or less parallel to the plain under-surface.

Possibly these were on the way of being made a double pentagonal-sided bead; having a raised pentagonal transverse section and two pentagonal planes on the two lateral sides, giving a hexagonal cross section.

No. 148 gives a distinct sign for that type as it has again been reflaked at the lower angular border of the under-surface, which makes the upper transverse sides pentagonal.

Both of these are made of agate and none are perforated or finished.

3rd group.—Plano-convex and sub-convex circular beads :

They are 15 in number.

Nos. 32, 77, 85, 86, 90, 145, 152 and 153 are plano-convex-circular beads.

All of these have plano-convex cross section and circular transverse section.

Except No. 32 which is made of smoky translucent quartz all are made of agate.

Nos. 152 and 153 show that they were at first made a plano-convex pentagonal bead and then their pentagonal sides have been worked out as a plano-convex circular bead.

None of these has been perforated or completed.

4th group.—Nos. 79, 91, 147, 150, 154, 155, are Plano-sub-convex-circular beads.

No. 79 has 12 translucent natural circular bands in a space of 4 mm. along the transverse section; none of these are perforated or finished.



Coming to the circular round beads they are found to be 19 in number.

5th group.—Nos. 74, 75, 76, 80 and 84 are very nicely flaked and notched to a perfect round shape. Though none of these are polished or perforated they show a completion of shape.

No. 74 is deep smoky in colour and No. 76 is a beautiful deep orange-coloured stone. The other colours vary from milky white to dull white.

No. 95 is a nice example of a polished perforated circular round bead.

Though it is broken while perforating, the perforation is marked transversely.

It is milky white and has a shining colour.

The others vary in size, the biggest in this collection approximately of 1.772 cm. diameter and the smallest is approximately 7.18 mm. in diameter.

6th group.—Taking the drum-shaped beads, which are 19 in number, it is found that they vary greatly in size. No. S. B. Y though broken is of 1.454 cm. radius and 2.908 cm. diameter and is the biggest of all and has been perforated vertically along the flattened sides. It has beautiful white natural bands diverging towards the circular border from the perforated centre along the flattened sides.

No. S.B. X is made of a beautiful agate which has about 100 fine white natural bands along the transverse circular region at a space of 1.272 cm. It has been polished.

The two flattened circular drum regions are rough. It is unperforated.

No. 69 is a deep smoke-coloured polished perforated bead having circular transverse section and a rectangular cross section.

The lateral flat sides are parallel to each other but rough and unpolished.

There is a beautiful white natural band at the centre of the circular transverse section. One flattened side is smoky and the other is white.

All others, Nos. 1, 47, 55, 57, 58, 59, 62, 63, 66, 67, 68, 72, 73, 73X, 73Y, 115 and 129, are in the stage of being made a rough circular transverse section and rectangular cross section.



None of these is either polished or perforated.

They vary in colour from smoky white to orange; most of them are banded along the transverse circular region.

Nos. 55 and 67 are orange-coloured.

The smallest one, No. 73, has 4.63 mm. thickness and 5.36 mm. diameter.

7th group.—Flat tabular beads:

These beads vary from 2.872 cm. to 6.63 mm. in diameter and 8.45 mm. to 1.63 mm. (195) in thickness.

The circumference of some of these tabular beads have been rounded off.

Nos. 158, 168, 194, and 193 are the broken pieces of these round circular tabular beads.

No. 193 is black but has a white band, mostly natural, along its transverse circular section.

They vary greatly in colour from brick red, white, milky, black and smoky.

Some of them have natural thick white bands along the transverse circular region.

Nos. 403 and 407 are two broken pieces. The perforating is along the breadth. They are broken along the perforation.

The beads are 66 in number.

These are natural banded.

8th group.—Pentagonal cylinder beads:

No. 141 is the one found of that type.

It has been trimmed all through, giving five-barbed ridges running along its length. It has a pentagonal cross section and a rectangular transverse section. It is not perforated. It is made of smoky opaque agate.

Its median portion is thick and the two ends are narrow.

The trimmings are at right angles to the length of the head.

9th group.—Elliptical barrel beads:

These are 9 in number, and each one differs from the other in colour.

No. 137 is yellow.

No. 135 is pink with an orange tint.

No. 133 is light yellow orange.

No. 187 is milky white with a dull yellow touch.



No. 134 is yellow with an orange tint.

No. 185 is orange crimson and yellow combined in some proportions.

No. 186 is brick red and yellow mixed.

No. 136 is orange with white eye.

No. 198 is transparent and colourless.

Though none of these has been perforated or finished, only No. 136 gives a definite elliptical barrel shape ; it has a fine elliptical eye border along one of the sides, and a circular cross section and a barrel-shaped transverse section.

All others have assumed a crude barrel shape, none being finished or polished.

The technique of work is found to be pressure-flaking.

10th group.—Square cylinder beads :

These are 13 in number, of various colours, and most of them have beautiful bands running along the cross section.

None of these are perforated or polished ; they vary in length from 2.9 cm. to 8 mm. and 1 cm. to 5 mm. in thickness.

No. 142 is smoky at the two ends and have alternate white and dark bands of about 60 fine lines covering a space of 1.163 cm. It is flaked along its length.

No. 178 is a white crude square cylinder bead with no bands.

No. 188 is a light smoky translucent square cylinder bead with a rectangular transverse section and a square cross section, one end of which has possibly painted white grooved bands.

It has been notched but is not polished.

No. 180 is a beautiful coloured bead half of which has a medium brown colour, then comes a smoky band, and again a series of brown fine bands passes along the cross section which rests on the smoky portion, the bead then ending in a brown overlapping end.

No. 138 is a dull orange-coloured bead having a tendency towards the barrel shape. Its two ends being convergent makes the central portion thickest. It has all through been flaked at rt. \angle s to its length leaving very fine semi-parallel ridges which runs at rt. \angle s to its length.

No. 139 is a dull brick red-flaked square cylinder bead. A bulb of percussion is marked at one corner.



No. 140, again, is a beautiful combination of colours. The colour ranges from light yellow, orange, white to deep red. It is also flaked at rt. \angle s to its length.

No. 181 is a combination of white and smoky colours.

Nos. 179 and 183 are two translucent beads with light smoky bands.

No. 144 is a white bead covered with a series of orange yellow bands which are 13 in number.

No. 182 is a sweet little bead which has two ends of crimson colour with central portions whitish and translucent.

No. 184. Though smallest among these square cylinder beads, it has been polished and possibly painted. The majority of the portion is black and the central angular portion is light yellow, orange and white.

11th group.—Rectangular cylinder beads :

There are only two of this type, Nos. 177 and 143.

No. 177 is made of smoky agate. Though unfinished it has attained the rectangular transverse section and cross section.

No. 143 is of deep green-coloured stone. It has attained the rectangular section.

None of these are perforated.

12th group.—Square beads :

These are 45 in number. They range in length from 1.8 cm. to 5.45 mm.

Nos. 108, 104, 106, 107, 109, 110, 200, 205, 113, 112, 114, 118, 120, 121, 127 and 119 range colour in from light orange to deep orange.

No. 109 shows 5 parallel groups running transversely on one of the lateral sides. It is an etched bead.

No. 111 is shining milky white, with the two longitudinal sides of the square being rounded off. It is made of a low grade opal stone.

Nos. 121, 125 and 208 are transparent colourless crystals.

Nos. 210, 206, 105, 117, 130, 116 and 211 vary in colour from light smoky white to deep brown smoky.

Nos. 196, 208, 197, 207, 209 126, 202, 204, 203, and 128 gradually move from milky white to light black and white combined.



Nos. 215, 212, 123, 124, 131, 213, 122 and 214 vary from deep black to light black.

None of these has been perforated or polished, but all have attained a certain square shape. The flakings are sometimes done along the length, sometimes at an angle.

But when we come to No. 400 which is a fine square bead with the angular points flaked off to a triangle which gives 8 triangles in all to it and 6 squares altogether along its sides, two being on the two antero-posterior portions. It is made of transparent colourless rock crystal. It has twice been perforated once from the anterior side then from the side opposite to it; none meet each other. Possibly this was therefore rejected.

Both the grooves are so marked just to show a clear way of boring in.

13th group.—Triangular cylinder bead:

No. 199 is the only example of this. It has a triangular cross section and a rectangular transverse section. It is made of transparent colourless crystal. It is unperforated and unfinished.

14th group.—Triangular prismatic bead:

No. 402 is made of dark green stone, possibly a broken piece, is highly polished and has not been perforated. One side is rounded off and one surface has a bulb.

15th group.—Hexagonal barrel bead:

No. 401. This is a fine specimen of this shape. Though unperforated it is polished and the six sides are so nicely cut that the ridges are prominent. It is made of a deep crimson-coloured stone.

*16th group.—*The most interesting among these collections are the painted and decorated beads, which show a distinctive class by themselves.

Most of the designs are white bands, dots, cross, pentagonal squares.

No. 89. Though it is more or less square-shaped, it has been completely covered with the white paint; when held against a powerful sodium light it gives a beautiful glow of orange colour which is the original colour of the bead.

Among the painted beads the best specimen is one square orange-coloured bead with square white band on the four sides and 5 dots



in the middle of the square band. Four dots are on the four corners of the square and one in the centre of the square. It is perforated. This is No. 416.

There is another square tabular bead which has double square bands on the two surfaces and a boundary of crosses is drawn angularly into the second band square.

It is so nicely polished that the paintings are not perceptible by hand. Possibly some grooves were made and these white liquid colours were filled in. At an angle of the bead where it is broken a fine groove of the perforation is visible; possibly it was broken while drilling. It has rectangular cross section and square surfaces.

17th group.—Conical diverging flat beads:

Nos. 409 and 406 are broken pieces of this type. They begin with a short oval end and then diverge out to a flat end. Their two sides are rounded off and the perforation is from short conical end to this broad end lengthwise; possibly these were used as pendants. Plate II.

No. 409 is made of medium smoky-coloured stone which has been painted with eight white bands; four on each respective flat sides running parallel to each other along the length of the bead. This one is perforated. At the broad base where it is broken two perforations are marked side by side, but there is only one at the conical end which helps it to hang vertically when passed through a string.

No. 406 is another broken piece of this type. It is an orange-coloured stone. The painted bands run along the breadth. Beginning from the conical end the painted band circles it leaving some space; it again completes a circle, and so these circles are at right angles to the length of the bead.

No sign of perforation is observed.

Circular round bead:

Nos. 99 and 405. Both of these are made of orange-coloured stone, and both are broken pieces. They are painted with white dotted circles covering the whole body.

Nos. 410 and 411 are broken half-pieces of circular round beads. Their perforations are marked, possibly broken while drilling.



No. 410 is made of dark black stone, which is painted with white pentagonal bands connected to each other.

No. 411 is a white stone which has white pentagonal bands painted on it and the space in those pentagons has been painted with black colours. Perforation is marked.

Flat Tabular beads :

No. 414 is a complete specimen of the round circumferenced flat tabular beads. It is a black-coloured perforated and polished bead. The white band circles round it along the circumference. (Pl. II.)

Nos. 159 and 160 are two broken pieces of similar specimens, with white painted bands.

Broken pieces :

Nos. 413 and 417 are two broken pieces white in colour but painted in black, the white bands being rhomboidal in 413 and pentagonal in 417. (Pl. II.)

In comparing these beads with other such finds I find great difficulty as there is no systematic record reported as yet for the beads from a mesolithic site.

In taking the elliptical barrel bead No. 136 (Pl. II) I must refer to a find by Dr. E. H. Hunt who excavated them from Megalithic tombs at Raigir.

It is difficult to date these beads. Should I take the mesolithic finds to be identical with these ? or were they made at the very place later on when a mesolithic settlement perished ? Any way I cannot but find that there was a workshop for making these beads and sending them out as trade goods. That is proved by the find itself being a series of unfinished beads. I have found big slabs of stones which must have been brought from other sites situated within a few miles of this place ; but no such stone hills or deposits could be found. Many of the beads have attained full shape but the marks of workmanship are still left on them.

• Except only one triangular cylindrical bead no triangular barrel bead was found. This might have given rise to a triangular barrel shape by rounding off the raised sides. Mr. Horace C. Beck writes that beads of this shape were found at Ur and Kish made of quartz and dates them about 2000 B. C. or earlier and that this kind of beads was known in Tasian civilization which is the earliest civilization yet found in Egypt.



Dr. Hunt has collected seven of this type, six of quartz and one of jasper.

The triangular cylindrical bead collected by me is made of quartz.

There are square cylinder beads as in the Raigir collection, found along with these beads. These beads are particularized by their beautiful natural bands.

Coming to the hexagonal barrel bead I have only one unperforated specimen, but it is very nicely cut and finished. It is of a deep crimson-coloured stone. (No. 401 Pl. II.)

A quartz bead of this shape was found from a grave at Ur. It is dated 3500 B. C.

Another made of amethyst found at Kish is dated before 2000 B. C.

As regards the Mohenjodaro bead finds I had the privilege of comparing several of them at the Indian Museum, Calcutta.

I found several perforated elliptical barrel beads, circular beads, tabular beads, flat tabular beads which could be only compared to a finished bead from Sabour as regards their shape. The material differs a great deal.

The painted beads from Sabour are really unique ; their make and design have seldom been equalled.

Several beads from South India which Horace C. Beck illustrates in his paper in *Man* are good in their colour display. But I find that these Sabourean beads are beautiful and nice-looking with simple designs, white paintings and simple plain natural colour.

Apart from these beads there are four broken specimens of bangles, Nos. 156, 157, R and S found from the same site.

No. 156 is a very fine specimen of agate with very fine lemon-coloured bands around it.

No. 157 R and S are also broken pieces but they are only white in colour.

Beads, painted and plain, of various shapes and designs have been found in other parts of India as well. In the Indian Museum I have seen several beads from Agroha, 13 miles N. W. of Hisar, Punjab ; from Ranchi in Chota-Nagpur ; from Mahurjhiri District, Nagpur, Central Provinces ; and from Benu Bagar, Singbhum District.

In the chain of beads of various shapes from Agroha, I found one



conical divergent pendant which has been perforated at the converging end along the breadth of the bead. It is made of agate.

The beads from Ranchi show a greater relation in shape ; there are round circular beads, barrel beads, drum beads, cylindrical barrel beads and tabular beads.

Among those found in Mahurjhiri District, Nagpur, Central Provinces, most of these forms are present. There is one orange-coloured white dot-painted bead which is just the same in character as No. 405 from Sabour.

The beads from Renuagar, Singbhum District, are as follows :—

Bead No. 8535 made of emerald green stone is an elliptical and shaped bead. The perforation is slightly inclined.

Bead No. 136 from Sabour could be placed beside it ; though unperforated it has a polished elliptical barrel shape.

Bead No. 8536 is a hexagonal cylinder bead made of rock crystal drilled from both the sides, is transparent and colourless. No. 8537 is a flat tabular bead dull smoky-coloured ; it is perforated. In my Saboureaan collections there are many of this type. No. 69 is a complete specimen from that site.

Bead No. 8538 is a square cylinder bead made of green material whose transverse sides have been rounded off and the perforation is elliptical in shape ; there are many of this type in the collections from Sabour.

In the chain of beads No. N. S. 447 there are barrel beads which have pentagonal band-paintings over them. No. 417 from Sabour has a painting of that character.

In specimen No. 8669 there is one square tabular bead, orange-coloured, and several pentagonal cylinder beads ; there is one hexagonal tabular bead with its median portion raised.

There are many square tabular beads in my Saboureaan finds, *e.g.*, Nos. 203, 204, 210, 122, 131, etc.

As regards the pentagonal cylinder bead No. 141 from Sabour, though unfinished it has a fine pentagonal shape. There are no hexagonal tabular beads in my collection. I desist from dating these finds. My best thanks are due to Mrs. S. Mitra of Bhagalpur, Master Amiyakumar Dutta of Sabour and Masters Ashoke and Kalyankumar Mitra of Ballyganj who helped me in collecting these finds from the site.



I have special pleasure to mention that Prof. A. K. Sen, M.A., Calcutta University, has kindly revised my paper. Mr. Dharanidhar Sen, M.Sc., has examined the materials used for making the beads and my brother Mr. Santo Bose has helped me in taking the photographs of the beads.

oval Bead in the making.
(stone - chalcidony group.)



O.B.1.



O.B.2.



O.B.3.



O.B.4.



O.B.5.



O.B.6.



Some Sabourecan heads with simple designs.



SABOUREAN BEADS AND BANGLES

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Sabourian Beads.

No.	Name.	L.	B.	Th.	Diam. (Gr.)	Colour.	REMARKS.
141	Pentagonal cylinder bead.	4.936 cm.	1.054 cm.	1.054 cm.	...	Light ash	
177		3.145 "	9.45 mm.	6.45 "	...	Light smoky	
143		2.927 "	9 "	...	...	Deep emerald green	
142	Square cylinder bead	2.9 "	7.54 "	6.18 "	...	Medium smoky at the two ends and white at the centre.	About 40 fine smoky bands along the white portion.
178		2.7 "	7.72 "	6.72 "	...	Milky white	
186		1.872 "	1.018 "	8.45 "	...	Light smoky	White serial bands pit, cone and possibly painted.
138		2.218 "	8.81 "	6.36 "	...	Dull orange	Converging ends.
180		1.609 "	8.72 "	6.18 "	...	Dark smoky and white zones.	Smoky fine bands along the white zone.
140		1.572 "	8.54 "	7 "	...	White orange and deep red zones.	Two white and deep orange bands.
139		1.445 "	9 "	8.63 "	...	Dark brick-red	A cone of percussion is present.
181		1.272 "	7.72 "	7.63 "	...	Half-white and half-smoky.	
144		1.272 "	6.72 "	4.63 "	...	White and orange yellow	15 orange yellow bands surrounding the whole bead.

Sabouran Beads—contd.

No.	Name.	L.	B.	Th.	Diam. (2r).	Colour.	Remarks.
179	Square cylinder bead	0.54 mm.	0.81 mm.	5 mm.	...	Light smoky	Light white and yellow band at the centre.
183		0.97 "	0.81 "	5.51 "	...	Ditto	
182		1.306 cm.	4.54 "	4.45 "	...	Milky white at centre; angular ends deep and medium red.	Red zones, white centre.
184		1.003 "	5 "	4.36 "	...	Yellow, white and black	Possibly a painted bead, the zones being black at an angle to the centre. It is converging.
194		1.636 "	1.435 "	1.436 cm.	...	Light pink white	
195		1.5 "	1.5 "	...	...	Light orange white	
196		1.5 "	1.345 "	...	...	Very light pink white	
196		1.473 "	1.454 "	7 mm.	...	White	
195		1.473 "	1.463 "	1.163 cm.	...	Smoky	
197		1.3 "	1.181 "	9.36 mm.	...	Yellow and white	
110		1.445 "	1.199 "	1.209 cm.	...	Orange	
200		1.227 "	1.151 "	1.027 "	...	Translucent orange	
111		1.218 "	1.199 "	1.027 "	...	Lustrous milky white shining like opal.	Internal glowing.



SABOUREAN BEADS AND BANGLES

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No	Surface lbs. d	345 cm.	1.3 cm.	1.127 cm.	...	ght and	orange	etching marks on one side.
205		1	1.01	...	...	Orange	...	Light orange band.
206		9	9	mm.	...	White	...	
211		1	1.127	cm.	...	Medium smoky	...	
213		1	1	"	...	Dark ashy	...	
214		1.1	1.1	"	...	Orange	...	White bands.
206		9.72	8.16	mm.	...	Light smoky	...	
212		1.11	1.136	cm.	...	White	...	
213		1.072	1.2	"	...	Translucent orange	...	
207		9.18	9	mm.	...	Glazed white	...	
218		9	9.54	"	...	Orange	...	
206		9.54	9.72	"	...	Translucent, colourless.	...	shining.
215		8.27	8.63	"	...	Deep black	...	
216		8.72	9.72	"	...	Smoky	...	
209		9.72	7.63	"	...	Do.	...	White bands transversely along cross sections.
209		7.45	7.27	"	...	Smoky white	...	Light brown band.
217		1	7.54	"	...	Light brown smoky	...	Brown and white band.
222		9	8.18	"	...	Deep black	...	
204		9	8.45	"	...	Dull white	...	Smoky band.
210		8.54	8.45	"	...	White and smoky	...	White band.

Sabourea Bead—contd.

No.	Name.	L.	B.	Tb.	Diam (2r.)	Colour.	Remarks.
212	Square bead	8.01 mm.	7 mm.	6.73 mm	...	Deep black	
203		8.45 "	8.36 "	4.81 "	...	Smoky and white	White band
191		9.45 "	8.45 "	7 "	...	Colourless transparent	
214		8 "	7 "	...	...	White and black	Do.
119		9 "	7.73 "	6.63 "	...	Orange	
130		8.45 "	8.73 "	7.18 "	...	Do.	
126		7.72 "	7.72 "	6 "	...	White	Milk white band.
124		7.45 "	6.18 "	6.63 "	...	Light black	White band
123		8.36 "	7 "	4 "	...	Black	
127		8.18 "	6.45 "	5.72 "	...	Orange	
121		7.63 "	7 "	4 "	...	Do	
131		7.18 "	6.54 "	4.72 "	...	Black	Do.
125		7.72 "	7.36 "	4 "	...	Transparent	
130		7.18 "	6.01 "	3.54 "	...	Smoky	Do.
125		5.45 "	5.45 "	5.45 "	...	Smoky and white zones	
74	Spherical round bead	1.801 cm.	Medium ashy	
75		1.681 "	Pink white	
76		1.454 "	Orange	



SABOUREAN BEADS AND BANGLES

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[illegible]

Sabourzan Beads—contd.

No.	Name.	L.	B.	Th.	Diam. (2r.)	Colour.	REMARKS.
55	Drum bead	9.45 mm.	1.254 cm.	Orange	White ring
57		...	...	7.63 "	1.3 "	Lemon white	White ring band
73x		...	...	1.054 "	1.116 "	Smoky	Do.
59		...	...	6.54 "	1.139 "	Lemon smoky	Do.
58		...	...	6.72 "	1.101 "	White and black	
47		...	...	7 "	1.127 "	White	Milk white ring
62		...	...	6.45 "	1.045 "	Smoky and white	White and smoky bands
63		...	...	7.27 "	1.072 "	Light brown	White band
67		...	...	6.72 "	1 "	Lemon orange	Orange and lemon white band
115		...	...	8 "	1.045 "	White	
1		...	...	7.36 "	9.36 mm.	Do.	White bands
66		...	...	7.63 "	7 "	Lemon white	Do.
68		...	...	6.96 "	8.18 "	Do.	
69		...	...	4.45 "	7.63 "	Deep smoky	White (bands perforated.)
737		...	...	7.27 "	6.27 "	Lemon	White band
129		...	...	6.63 "	5.36 "	Do.	Do.
72		...	...	4.45 "	6.27 "	Smoky	Do.
73		...	...	4.63 "	5.54 "	Black and white.	Do.



SABOUREAN BEADS AND BANGLES

95

	Elliptical barrel bead	2.101 cm.	1.045 cm.	...	...	Lemon yellow
137						
133		2.1	1.172 "	1.1 cm.	...	Orange
134		1.645 "	1.136 "	9.36 mm.	...	Do.
138		1.554 "	1.054 "	9.54 "	...	Colourless crystal
187		1.718 "	...	...	1.154 cm.	Yellow white
135		1.896 "	7.81 "	9 mm.	...	Pink
183		1.545 "	9.63 "	1.1 cm.	...	Brick-red
185		1.263 "	9.45 "	7.51 mm.	...	Orange and brick-red
136		1.6	...	...	9.72 mm.	Orange
163	Plano-convex elliptical bead	9.27 mm.	7.18 mm.	...	r=5.01 "	Colourless crystal
151		1.2	1.045 "	...	r=5.27 "	White
146		1.3 cm.	1.136 cm.	...	r=9 "	White
148	Plano-convex pentagonal bead	1.081 "	...	6.81 mm.	...	White
149		1.045 "	...	7.72 "	...	White with smoky zone
82	Plano-convex circular bead	...	...	5.72 "	1.2 cm.	Smoky
85		...	...	8.45 "	1	White
86		...	...	9 "	1.072 "	Do.
77		...	...	1.072 cm.	1.272 "	Do.
90		...	...	9 mm.	1.163 "	Do.
45		...	...	9 "	1.972 "	Milky white

White eye band on one side.

Sabouran Beads—contd.

No.	Name.	L.	B.	Th.	Diam. (2r.)	Colour.	Remarks.
122	Plano-convex circular bead	...	...	8.63 mm.	1 cm.	Milky white	
153		...	...	6.81 "	1.1 "	White	
190	Flat circular tabular bead	...	...	2.45 "	2.3 "	Do.	
56		...	...	7.54 "	1.327 "	Do.	
22		...	...	3.18 "	1.554 "	Do.	
131		...	...	8.81 "	1.372 "	Smoky	
31		...	...	5.37 "	1.401 "	White	
60		...	...	6.36 "	1.145 "	Do.	
61		...	...	7 "	1.2 "	Smoky	
2		...	...	8 "	1.154 "	White and yellow	
40		...	...	5.36 "	1.227 "	White	
64		...	...	6 "	1.2 "	Smoky	
42		...	...	3.72 "	1.272 "	Dull white	
44		...	...	3.16 "	1.263 "	Brick-red	
20		...	...	4.63 "	1.101 "	White	
43		...	...	5.03 "	1.201 "	Smoky	White band
41		...	...	5.01 "	1.145 "	White	
45		...	...	5.27 "	1.264 "	Smoky	White and brown band



SABOUREAN BEADS AND BANGLES

97

65	...	...	5.63	1.045	Smoky	Do.
46	...	...	4.45	1.1	White	White band.
122	...	...	5.72	1.072	Light brown	Do.
51	...	...	5.63	1.053	White and brown	Do.
48	...	...	5.27	1.045	Do.	
31	...	...	5.54	1.1	Do.	White band.
31	...	...	5.63	9.45 mm.	White	Do.
10	...	...	5.45	1.1 cm.	Do.	Do.
24	...	...	4.27	1.072	Smoky	
7	...	...	2.72	1.1	Do.	
26	...	...	3.45	1.163	Smoky white	Smoky band.
33	...	...	4.45	1.045	Do.	
11	...	...	6.18	1	Brown white	White band.
22	...	...	4.27	9.53 mm.	Smoky	Do.
29	...	...	5.63	9.36	Do.	
4	...	...	3.27	1.027 cm.	Pink	
3	...	...	3.72	9.27 mm.	White	White band.
60	...	...	5.26	1 cm.	Brown	Do.
49	...	...	5.63	9.45 mm.	Light brown	Do.
34	...	...	3.54	1.01 cm.	White and brown	

Sabourea Beads—contd.

No.	Name.	L.	B.	Th.	Diam. (Gr.)	Colour.	Remarks.
6	Flat circular tabular bead	3.72 mm.	9.45 mm.	Dirty white	White band.
25		...	...	1.63 "	1.045 cm.	White
35		...	...	3.18 "	9.81 mm.	Light black
9		5.36 "	9.45 "	White	Do.
53		...	...	6.72 "	9 "	Do.
23		...	...	2.63 "	1 cm.	Do.
5		2.27 "	9.63 mm.	Do.	White band
6		...	...	5.01 "	8.18 "	Do.
87		...	...	2.36 "	7 "	Brown and white
26		3.27 "	8.54 "	Do.	Do.
54		...	...	3.54 "	8.81 "	Black and white
15		...	...	4.36 "	8.54 "	Cream white
27		2.45 "	9.72 "	Dull white	White and black band.
30		...	...	5 "	8.45 "	Light brown
19		...	...	4 "	7.36 "	Do.
18	3.45 "	6.54 "	Do.	Do.
14		...	...	4 "	8.01 "	White
12		...	...	2.27 "	8.45 "	Do.



SABOUREAN BEADS AND BANGLES

99

13	Do.	8.01	2	...	...	...
70	White	7.54	4	...	...	...
17	Do.	8.27	2.18	...	...	...
159	Black and white	7.72	1.72	...	...	...
16	White.	7.45	4.45	...	...	...
71	Black and dull white	6.45	3.27	...	...	...
26	Do.	8.35	2.18	...	...	...
159	Lemon white	2.872 cm.	7.36	...	...	...
194	Dull white	...	6.35	...	...	...
153	Do.	...	7.27	...	...	...
83	Light brown	1.5 cm.	5.63	...	...	...
407	Black and white band	1.081	4.45	...	...	...
193	Do.	...	8.54	...	...	...
408	Do.	...	5.45	...	...	...
79	Lemon	1.354 cm.	1.073 cm.	...	...	...	Plano-sub-convex circular bead	

The circumference is round and polished, it is broken, white natural band in all these beads from 159 to 408

Except No. 88, all are broken therefore diam. is not available. Nos. 407, 408 are broken while perforating.

Fine white bands.

Sabouran Beads—contd.

No	Name	L.	B.	Th.	Diam. (2r.)	Colour.	Remarks.
91	Flato-sub-convex circular bead	...	...	7.72 mm.	1.054 cm.	White	
147		...	...	6.72 "	1.254 "	Do.	
150		...	...	9 "	1.1 "	Do.	
154		...	...	7.63 "	1.3 "	Do.	
155		...	...	5 "	9 mm.	Do.	
410	Pentagonal bead	1.1 cm.	1.318 cm.	1.1 cm.	...	Do.	All five-sided pentagons. (12 pentagons).
199	Triangular bead	1.245 "	8.63 mm.	7 mm.	...	Transparent colourless	
400	Square bead with triangular zones	9.36 mm.	8.72 "	...	...	Do.	Perforated from both ends which did not meet. (8 triangles.)
	Painted bead						
415	Square tabular bead	1.763 cm.	1.672 cm.	5.18 mm.	...	Orange	Square and cross bands broken.
414	Flat tabular circular bead	...	...	6.27 "	1.3 cm.	Deep black	White band along the circumference perforated and polished.
160	Do. broken	...	...	4.36 "	...	Do.	Do.
159	Do.	...	...	5 "	...	Black	Do.
80	Circular barrel bead	1.1 cm.	8.81 mm.	...	...	Orange white	White painted.
	Conical diverging flat bead						
406	Do. broken	...	...	4.48 mm.	...	Orange	White bands, circular along the border, polished.



SABOUREAN BEADS AND BANGLES

101

99	Do. broken	...	...	4.72 "	...	...	Black	White bands along the length, perforated and polished.
405	Circular round bead	...	...	...	...	...	Orange	Dots white
410	Do. broken	...	...	...	...	1.145 cm.	Do.	Do.
411	Broken pieces of various shapes.	...	...	...	...	9 mm.	Black	White pentagonal bands.
		...	...	...	...	7.81 "	White and black	Do.
404	Circular bead	...	...	...	...	1.345 cm.	Orange	Orange band.
413	Unknown shape	1.553 cm.	3.54 mm.	3.45 mm.	...	...	White and black	Long pentagon, black points leaving white bands between them.
417		9 mm.	8.16 "	4.51 "	...	...	Do.	
	Hexagonal barrel bead	6.63 "	5 "	...	...	...	Deep crimson	Finely cut.
	Ornaments :							
	Bangles :—							
	Broken pieces							
156		...	1.072 cm.	5.72 mm.	7 cm. Inner.	...	White	Fine lemon coloured bands.
157		...	8.15 mm.	4 "	3.772 cm.	...	White	...
	R	...	1.643 cm.	4.51 "	3.732 " approx.	...	Do.	
	(Curved slab) S	...	...	8 "	...	...	Do.	



FISHERMAN OF THE EAST-COAST OF INDIA

By

DHARANIDHAR SEN

[A few words must be said before the brief narration is begun. This account is very general, and mainly descriptive, and does not aim at anything complete. Rather written in a popular sense, its purpose is to give to the reader only a general idea of the Nulias, both racially and socially. I shall be failing in my duty, if I omit to mention the name of Prof. H. C. Chakladar, M.A., under whose notice we took the Nulias into account, in an excursion arranged by the University of Calcutta, in October, 1933. Certain of his conclusions, yet unpublished, regarding the Nulias as a racial type are very interesting and are given here as throwing some light on the hitherto unnoticed caste of fishermen. Much debt is also due to Sj. Nirmal K. Bose, M.Sc., a well-known worker in the field of anthropology.]

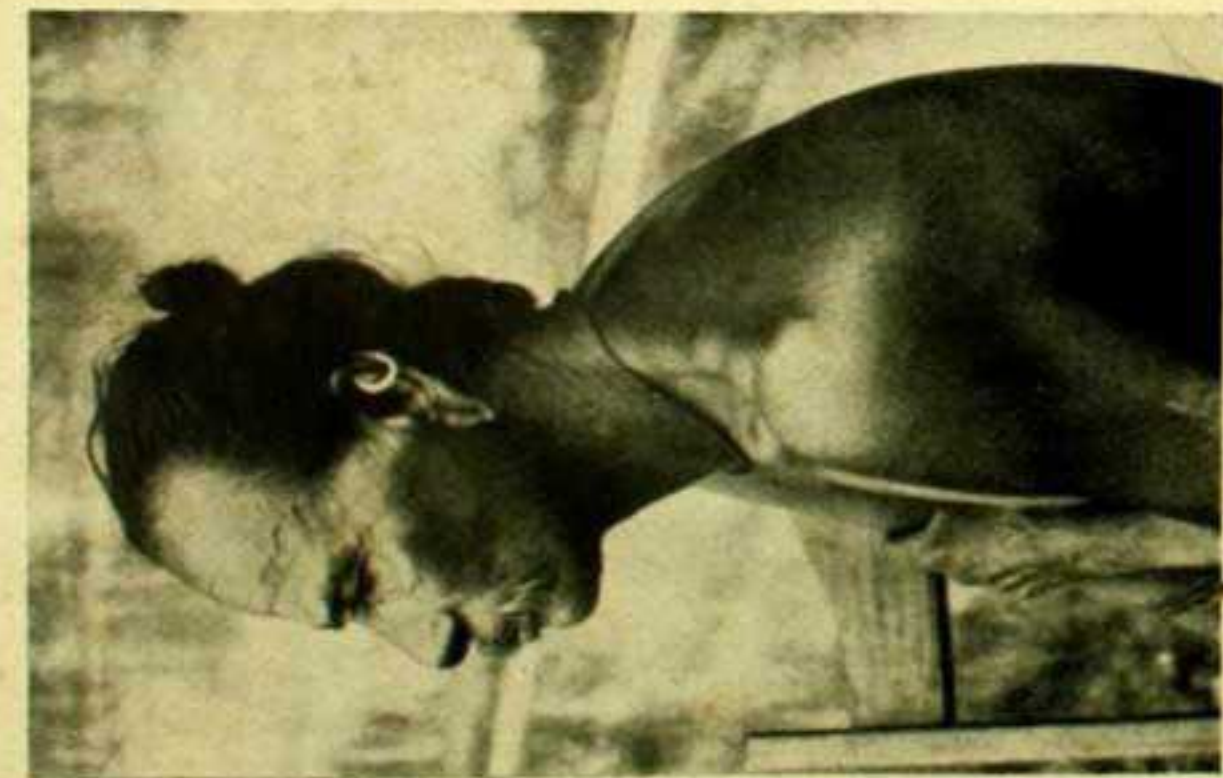
The Nulias or the caste of fishermen occupying the east coast of the Indian Peninsula, from Lonatak to Vizag and a little southward, maintain their existence chiefly by catching fish in the open sea, the Bay of Bengal, and, not in the inland lakes or rivers, with the exception, we know, of only one group living near the Lake Chilka and fishing in that lake. It is said that fifty families of these men were imported by the British Government from the Ganjam coast and were made to settle at the Puri coast for the purpose of conveying goods to and from the ships calling at the port of Puri. The importance of Puri as a port has long ceased and the men, being out of occupation, took to fishing. In Orissa they are called Nulia, or more correctly Nahariya, *i.e.*, the people who work on the waves (perhaps the word has something to do with the Bengali word '*Lahar*' phonetically), but the most numerous section among them call themselves, '*Wāda-bāliji*'—a Telugu expression, meaning the ship's crew or mariners. Members of a smaller section designate themselves as



'Jālāri,' workers at the net. It is curious that there is neither connubio nor commensality between them and each section thinks itself superior to the other. There is a tradition that the art of catching fish was originally confined to the Jālāris and stories are told how some clever Wād-bālijis managed to learn it from the Jālāris who wanted to keep the making of nets a trade secret. One of the stories goes that a new net was woven every day and was burnt out every night lest it be stolen. At length, a clever Wād-bāliji hit upon the idea to examine the burnt ashes of the nets and thus came to know of their secret. This story told and retold among the fishermen, is fabricated by the Jālāris who claim superiority in their trade. It has some grains of truth for, as it is said, these Wād-bālijis, from their very name were not fishermen, but manned ships that carried maritime intercourse with the islands of the Indian Ocean till the Moghuls when it was cut short by Portuguese pirates, and later almost put an end to by the East India Company. The seafolk thus thrown out of their occupation had no recourse but to adopt fishing for their subsistence.

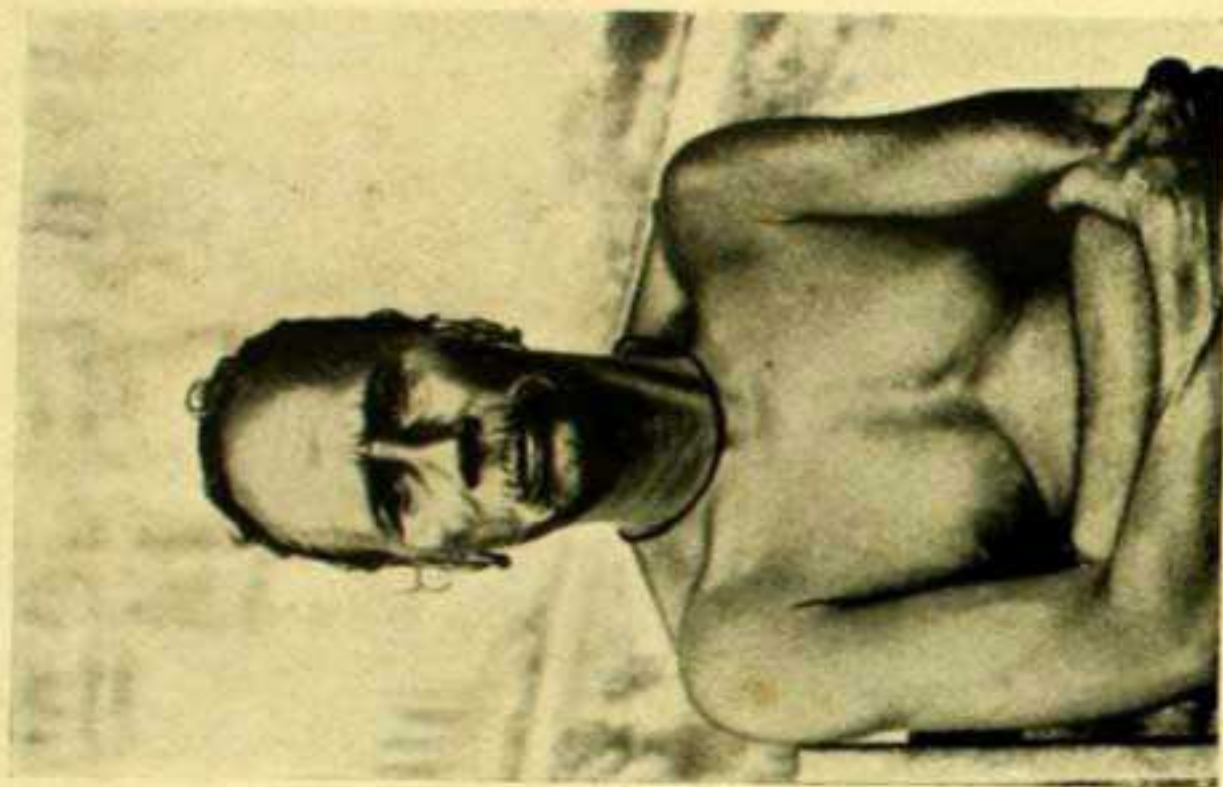
Another section of the fishermen, calling themselves Kālāsia from Khālāsi, a Persian term meaning the crew of a ship, is said to have migrated into Orissa before the Wād-bālijis were imported. Inter-marriage obtains between these two sections, evidently showing that they represent two waves of the migration, the earlier wave comprising the Kālāsias who have nearly forgotten their own language and have adopted the Oriya tongue. The Wād-bālijis have come recently, it is said, three generations ago, i.e., when their grandfathers came and settled in Orissa. They thus still retain their own speech. Stimulated by the success of the settlers, the Wād-bālijis have been crossing to Puri from the Vizag and Ganjam coasts and those settled at Puri and along the Orissa coast still maintain their connection with those districts and speak in Telugu, though many of them can speak Oriya too.

Out of 167 individuals whose measurements were taken 17 individuals have been dropped as having been either under 20 years or about 60 years of age so that we got a series of 150 full-grown individuals on each of whom we took 30 direct measurements, of which 13 were taken on the head, 16 on the body and the limbs besides the body weight and also three additional measurements, viz., height



A. Nulia fisherman—profile.

[To face p. 105.]



A Nulia as seen from the front.

[To face p. 105.]



supra-sternale (both sitting and standing) and the girth of the chest, were taken, all according to the methods recommended by Martin. Various calculations were made and analysed; important indices and averages have been determined, which will now be concisely described.

In stature, these fishermen are rather short. The average stature of 150 men was 160.3 cm. which is below the medium as fixed by Martin (1640.69 cm.). The percentage is as follows; 50% are short, 25% below medium; of the rest, 14% are only of medium stature and 11% above the medium; now, of this 11%, a very small fraction, viz., 4%, are really of tall stature.

With regard to the head form, they are predominantly dolichocephalic, the mean cephalic index being 75.3. 60% of the whole series are dolichocephalic (below 76), 34% are mesocephalic and only 6% are brachycephalic.

The nose of the Nulias is predominantly mesorrhine, the mean nasal index being 75.5. Out of the series (150), 65% possess mesorrhine nose while 24% are leptorrhine and 11% are platyrrhine. These men are at the same time hypsicephalic, the length-height index being 64.9 (average). Out of the series, 69% possess the hypsicephalic head with a high vault; 19% are orthocephalic while only 12% are chamæcephalic.

The Nulias have plentiful hair on their heads as will be seen from the plates. The colour of the hair is black, wavy and sometimes curly.

The Nulias show a brownish-black, often deep-brown skin-colour. Of the 150 men, 70 or 27% only indicated 30 on the Von Luschan's colorimeter.

Thus summarising the physical features of the Nulias we find a people who are long-headed, fine-nosed and of medium and short stature, with plentiful black wavy hair and brownish black skin. We have here then a model of what the celebrated anthropologists Giuffrida-Ruggeri and Haddon describe as the Dravidian type. According to Prof. Chakladar, who statistically and in much detail, analysed the measurements, these people may be compared with the Telugu-speaking people whose measurements have been given by Thurston. His figures agree closely with ours but it must be noted, that they do not represent one single homogeneous caste as in our



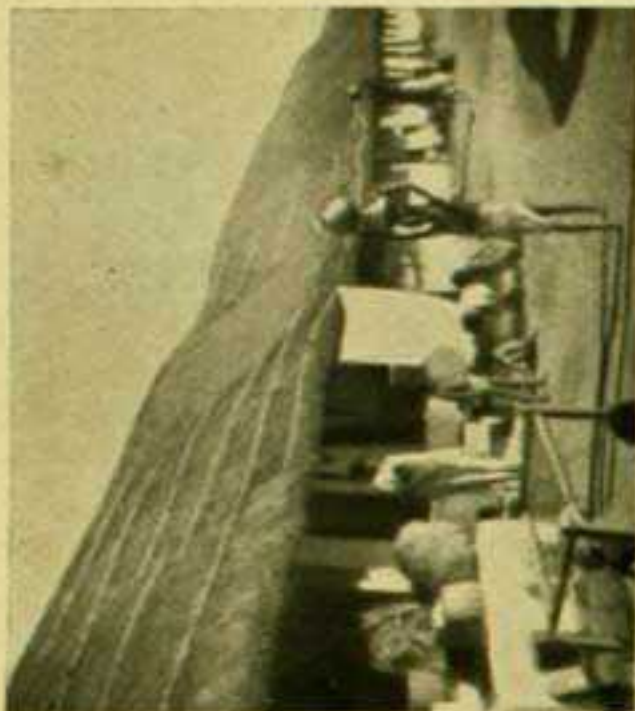
case. The Armenoid or Pamirian type (brachy-cephal fine-nosed) is not prominent among these fishermen as is seen from the calculations of combinations of cephalic and nasal indices; this is what may be naturally expected as the Pamirian type comes into prominence among the higher-caste Dravidians, the untouchable lower castes like that of the Nulias who are not even allowed to enter the Jagannath temple at Puri, having very little of that admixture. Of brachy-lepto type there is none in our series but the dolicho-lepto is represented by 23 individuals including some of the tallest men of our series. Here according to Prof. Chakladar there is a percolation of the so-called Indo-Afghan type of Giuffrida-Ruggeri. The dolicho-platy is represented by only 6% including some with widest nose, which points to the fact of a pre-Dravidian element being present in our subjects—which may be called the Nishāda element of Chanda.

The Nulias like to live in colonies and build their huts close to one another. In a typical Nulia village the huts are all arranged in parallel rows in one direction avoiding the wind so that their habitations can be saved from the ravages of storms well known in those areas. There are several such rows parallel to one another and the open space between any two parallel series serve the purpose of passage. But it seems the spacing is not planned but left at random. In a single row often there are fifty huts and in a typical colony there are usually ten or twelve such rows. The house of an individual is very simple. Usually for a family there are three rooms and a courtyard at the back (western side) where kitchen vegetables are grown. Usually each family keeps ducks and breed them and there are shelters for them under the portico of their huta. The length of the hut is generally 20', and breadth 8', the front portico being raised 3'. There is only one window at the front and one main door. The walls are built of mud plaster and white-washed. The roof is thatched with straw and bamboo tied with strings of papua. The women paint the portico and door-steps with Ālpanā in very handsome designs. They have no furniture save and except a few utensils, sleeping mats and their instruments of occupation. The Nulias are very ignorant of hygiene and though they are a little bit dirty inside their house, they are very filthy outside and throw all the refuses on the open space the middle of which is always filled with rubbish and serves as the public dustbin. The local municipality



A Nulia with his nets.

[To face p. 107.]



A Nulia village at Puri.

[To face p. 106.]



does not take any care and when an epidemic breaks out it often takes the most virulent form.

As regards their daily food they usually take rice steeped in water with dried cooked fish in the morning. Their midday meal consists of hot rice and salt. In the evening their menu is something better, *viz.*, rice and curry. When the men work on the shore their women bring them their food. On Mondays in the month of Kartick they observe fast. During Dolpurnimā and Durgāpujā they take only bread.

The ordinary daily dress of the Nulia is simple enough and there is nothing peculiar. They wear common white coarse cloth round their waist and above the knees and generally carry a napkin. Sometimes they wear a turban of cloth on their head. Their ceremonial dress consists usually of the white cloth worn round their waist down to the knees. Sometimes they use chaddar. So far as is known they have no seasonal dress.

The Nulia tribe is not economically independent. They are involuntarily dependent, *i.e.*, they have to depend on others for their subsistence. Their hours for labour are from four in the morning till 12 noon during March to November. Those who stay in during these hours generally do the knitting. From November to February fishing is continued day and night. They keep awake the whole of the night on the sea-beach and watch for signs of the fish. The women's hours of work are from morning till noon when they prepare food and convey it to the men on the beach. Some women do the work of day-labourers and thereby earn a living. The actual budget is taken on the Dolpurnima day. The average income (November to February) of approximately ten to twelve men with one net is Rs. 1,000. There may be forty such groups working on the beach at Puri. From March to October the daily individual income is six annas, for women four annas. The average income of a family of 5 members is Re. 1; average expenditure (necessity) is eight annas but there are supplementary expenses too. The men are heavy smokers and sometimes they drink too much and incur loss. It will be seen that from their income during March to November, they will have to spend all for their food. Their savings are from what they obtain during November to February. The only means of life they deal with is the fish, the women supply the labour. Their instruments of production



are: the boat, net, thread, tanning materials, barks, hooks, wood, colour, gum; particular areas of the sea; carpenter's tools. They make all their instruments with their own hands except the carpenter's tools which they buy. Ownership is individual and there is no class distinction on ownership. But there is a good deal of social co-operation in their industry. The Mabājan has to depend on the good will of the rāyats and there is remarkable unity of each in its own group.

There are some interesting features which we noticed in the marriage system of the Nulias. All the members of the two sections of the Nulias—the Wād-bāliji and the Kālāsi—commonly speak of themselves as belonging to Nag gotra, so that it seems the Gotra does not determine their marriage which is regulated by their clan-groups. On the Orissa coast, there are 50 such exogamous groups—there may be a few more on the Ganjam and the Vizag coasts. Usually the Nulias marry early. As a rule, the respective ages of the boy and the girl are 17-18 and 12-13. It is highly significant that the consent of the girl, be she a minor, is essential to make a valid marriage. The consent is obtained before an assembly of the elders. Coercive methods to induce consent is never applied, and, if detected, would make the marriage null and void. The ceremony is celebrated in the place of the bride-groom. The marriage ritual is elaborate. Here only a few salient points are described. After the formal ceremony of Bākdān, the astrologer settles an auspicious day and a priest is engaged. It will be seen that a Ur-pedi (a member of a privileged family from which the administrator of the village is selected) has a principal part to play and it is also interesting to note that nowhere except in the marriage ritual a priest is employed. Many features are common with the Hindu—beginning from Gātra-haridrā but there are many differences in detail. After the marriage proper is concluded, the couple are conducted in a procession through the whole village. At their return, the passage to the entrance is blocked by the younger brother of the bridegroom. He makes some customary objections and cuts jokes with the bride, and, when he obtains a promise that he will be married sooner, he lets them go. It is highly significant to know in this wise that a widow may, if she chooses, marry the younger brother of her husband. But there seems to be no obligation. Any way we may infer that, though a mild



form, levirate exists among the Nulias. Three days after the marriage, the husband sets out with the wife, in an auspicious hour, for the house of his father-in-law and leaves his wife there. Sometimes after, the formal ceremony of second marriage is gone through and the wife then returns to her husband's place and their marital life begins. In case of a widow-marriage, the formalities are usually omitted. Divorce obtains among the Nulias as a rule and is easy, for unlike the English laws, there are no prescribed reasons to show in order to obtain one. Simple disagreement may be the sole cause of a divorce but the Panchayet demands a fee of Rs. 15 and the party which seeks divorce must pay an additional amount of Rs. 50. But when sufficient reasons are forthcoming, this fee is usually excused. Cross-cousin marriage is also met with, the union being with the mother's brother's daughter. Sometimes polygamy is found. For instance, a sonless husband may seek a second wife but never a third, and, he must, as a rule, divorce the first wife. But a very interesting case recently happened where a girl fell in love with a married man and things so led to a climax through a series of dramatic events that the man had no escape but to be reconciled to both women, and the Panchayet had no option but to agree to a marriage. This illustrates the liberty and independence enjoyed by the women of the Nulia community. Divorce and re-marriage are necessary corollaries of the honoured place of women.

The most important person of the Wād-būlijis is the king of Māndāsa,—the Mailpilli Narayan Swami, who is called upon to dispose of cases of social disputes which are long waiting and for which no solution is forthcoming. He is the supreme ruler and there is no appeal beyond his court. The kingship is hereditary. Under the king comes the village chief or the administrator elected from a family of rank and honour, the family of Aunk. And he is elected from an approved body. The man selected is the Ur-peda in whose hands the key of local administration is given. But he may be removed by the Nulia public for mismanagement or maladministration and sometimes the king of Māndāsā is called upon to settle the affairs and his judgment is final. Sometimes a village secretary is engaged under the chief. On his election the Ur-pedi must obtain the royal consent. Now the whole Nulia organisation is divided into 13 sections, each of



which is called a Birishi. The village secretary under the Ur-pedi is called Kāriji and also there is a chāprāshi who is designated as Sāmmitodu. The Aunk family is held in esteem due to the customary belief of the people that the chief village deity Aunk Pāllāmmā was born in that family whose members therefore take the name of Aunk Ramaiya or Aunk kārāmma and so on. The Ur-pedi is elected from an approved body of the family of Aunk. The offices of Ur-pedi, kāriji and Sāmmitodi are not hereditary but are held for life.

The Nulias call themselves Hindu and are in fact so, for we find they worship Hindu deities and engage Brahmins at the time of marriage. But there is this great contrast in the worship of the deities that they sacrifice hens and pigs and that very cruelly, amidst almost savage expressions of joy. They have a peculiar sacrificial post, unlike that of the Hindus, in the form of a pole to which the victim is tied hand and foot. It seems they have certain connections with the aboriginal people of the inland. They assert that because their deities are cruel in nature cruelty must be adopted to satisfy them. As the Nulias are untouchables they have set up their own shrines at the village border where they worship the deities with all the solemn formalities. Of their deities the chief are said to be Nrisingha and Mahādeva. We had once the good luck of seeing the Nrisingha Pujah in a family,—the Pujah being once held by vow, perhaps similar to our Satyanārāyan Pujah. A dance by the priest and his followers before a fire is a feature of the ceremony. The song of Ram is sung accompanied by the sounds of the bell-metals and in steps harmonising with the sounds of the metals. Each dancer has a burning torch. The whole scene is spectacular in the darkness of the night. At the concluding dance the Pāndā leads the chorus.

Now the chief deities have certain followers who are worshipped with the same, if not more, formal observances. Of these can be mentioned: Adi-Sakti, Enegi-Sakti, Karāl-Sakti, Dau-Sakti, Ank Palama, and Daibum Sambaram. It is significant that Saktism is evident in their worships. These deities, as they say, are not easily appeased. On any emergency the deity is said to demand for blood. In epidemics, famine and drought these deities are propitiated with the sacrifice of hens and pigs in any number. A fine



account of such a ceremony—the worship of Enegi-Sakti—has been given by Sj. N. K. Bose in *Prabasi* (Fālgun, 1340), where divination by egg, and what followed, the sacrifice of a hen, whose breast is torn open by the hands of the devotee himself, the deity Enegi, are the features of the ceremony. It must be interesting to note therein that this divination by means of an egg is a very primitive trait and that domestication of hen must date back to farther remote period—an opinion which Lowie has drawn from this divination method by egg. Sometimes even more cruelty is met with, particularly in the worship of Ank Pālāmmā, where the sacrificial post is fixed on a cart and a pair of pigs are pierced through it. Then the people make a procession amidst loud cheers together with the painful cry of the victimised pigs. It seems that such a superstitious ceremony is a custom handed over to them by their more aboriginal Dravidian ancestors.

But it must not be concluded from these ceremonies that the Nulias personally are very cruel. On the other hand, when you meet the individual, you will find a remarkably polite rather shy, amiable and good-natured gentleman. But physically, as can be seen from their measurements they are very muscular, bony and well-built. They have also certain popular deities whom they worship with very simple innocent ceremonies. One such is the village deity, Gangā Devi, which though literally meaning the Goddess Ganges, is really the presiding deity of the sea. This deity is very popular among the Nulias. They firmly believe that if they have satisfied Ganga Devi they have satisfied the great open sea which is the main source of their livelihood.

Labouring and struggling in the mighty waves of the sea for their subsistence the Nulias are seldom long-lived and die very early. But though short-lived, their life is full of work and labour and the individual Nulia is never idle. You will always find him at work on the sea-beach or in his village,—fishing or working on his net or sometimes building his boat or weaving or colouring the threads and so on. Even the Nulia woman may not depend on her husband but may earn an independent income, as you may often find her working as a day-labourer. Apart from their regular profession the Nulias sometimes work as railway coolies or as guides to the bathers and you will always find them hardy and serviceable.



Let me conclude from what we have seen that these east-coast fishermen of the Indian Peninsula contribute many interesting ethnological data, and social and religious features, which when properly and more fully enquired into, will, we believe, offer useful analogies with and throw new light on other peoples of India and elsewhere.



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